

Page 1 Of 33

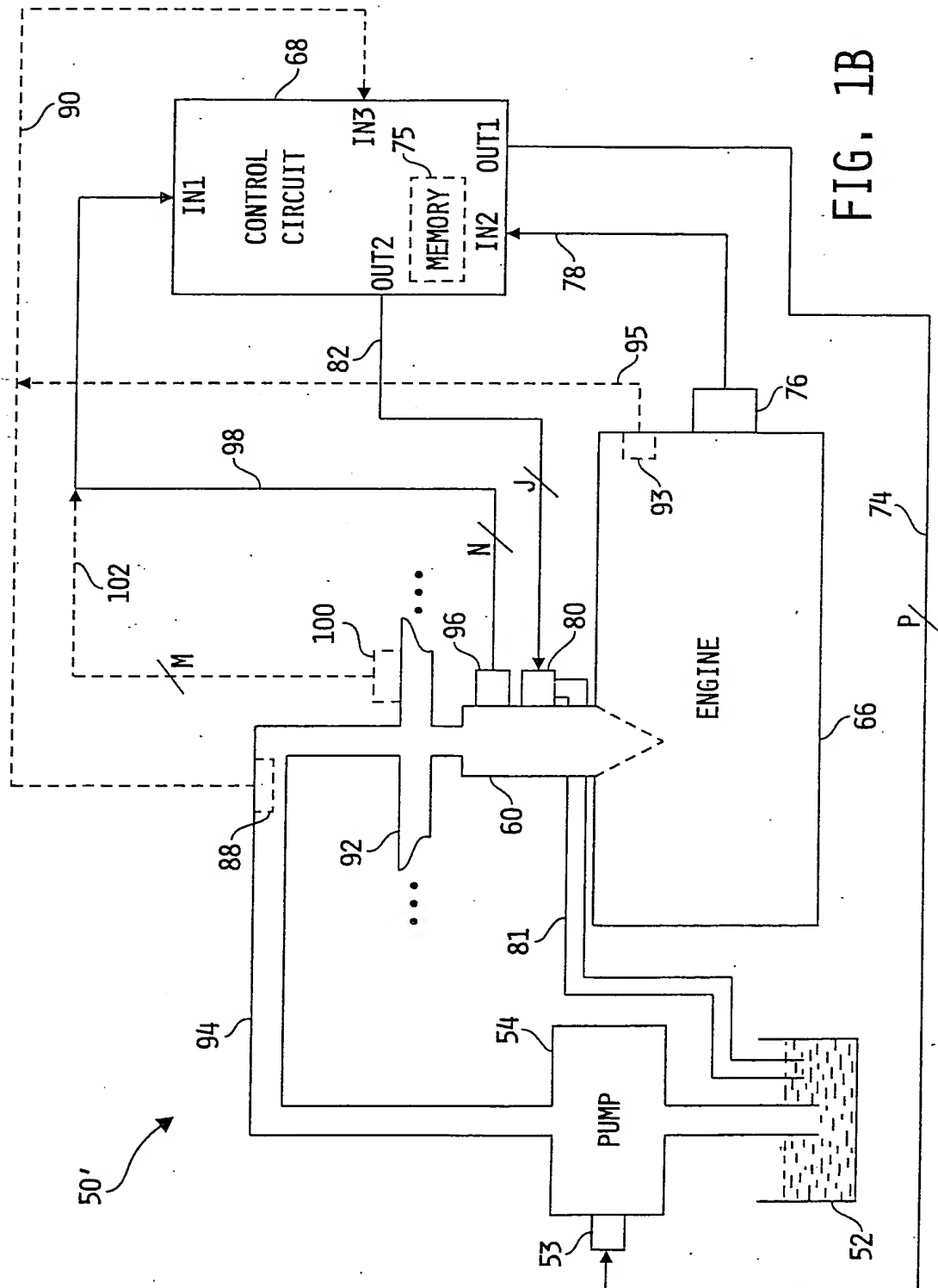


Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 2 of 33



Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 3 of 33

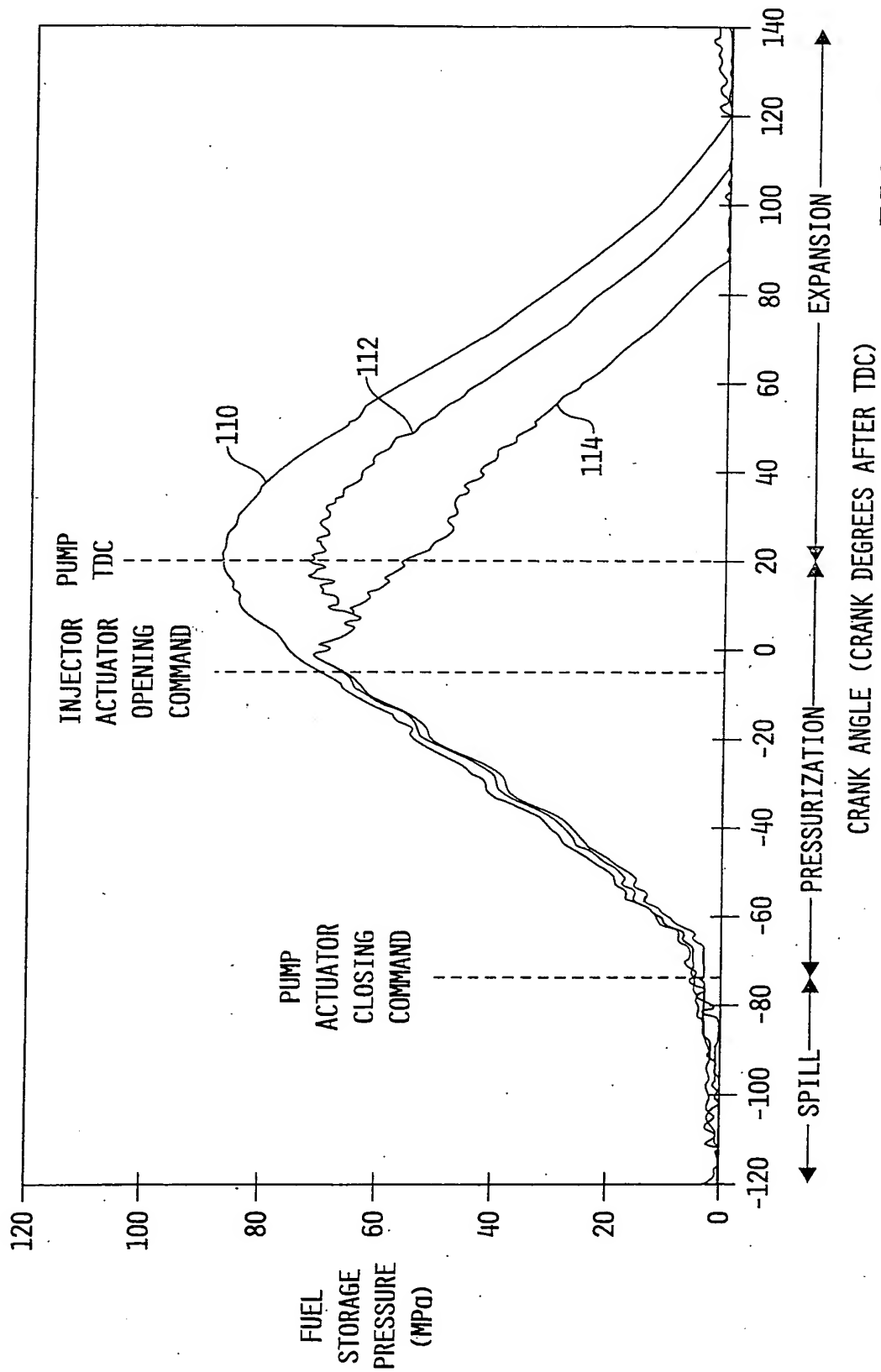


FIG. 2

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 4 of 33

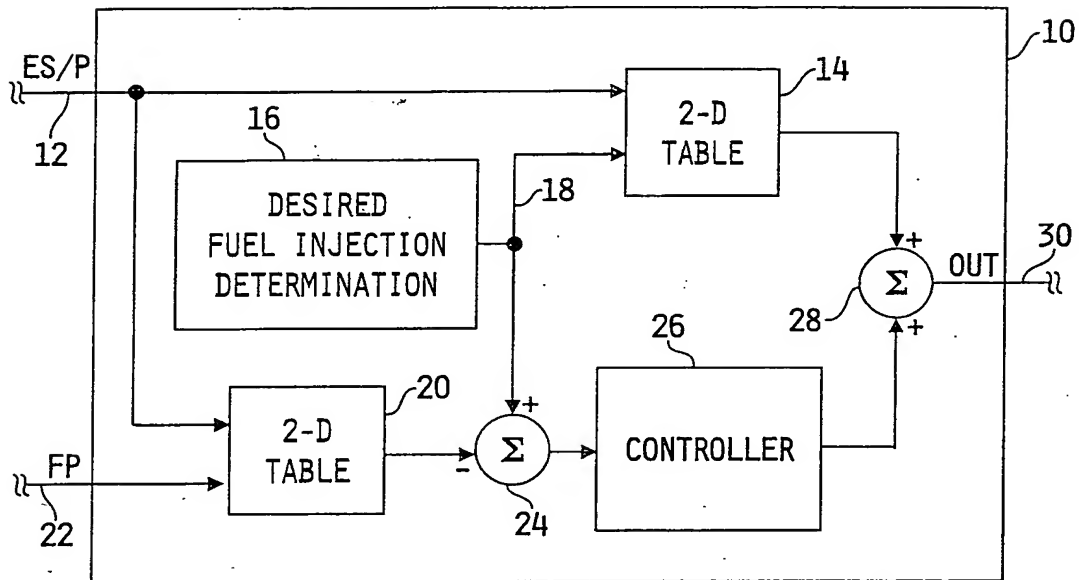


FIG. 3
(PRIOR ART)

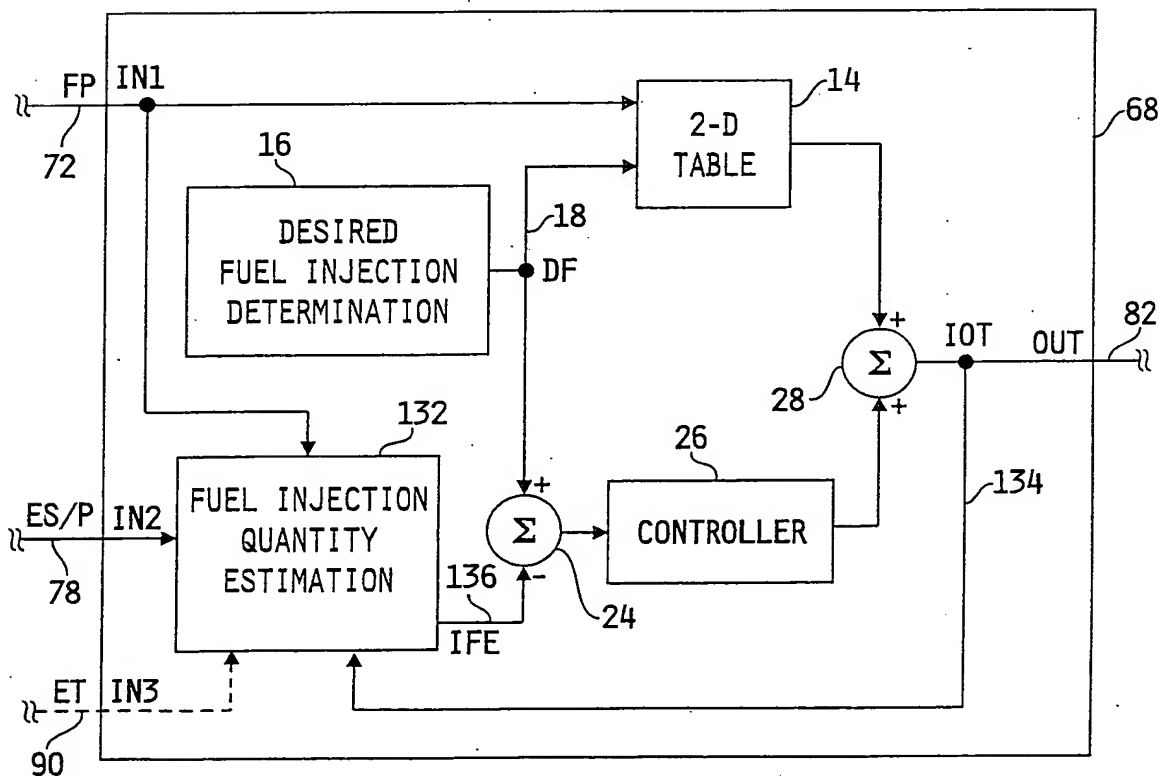


FIG. 4

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 5 of 33

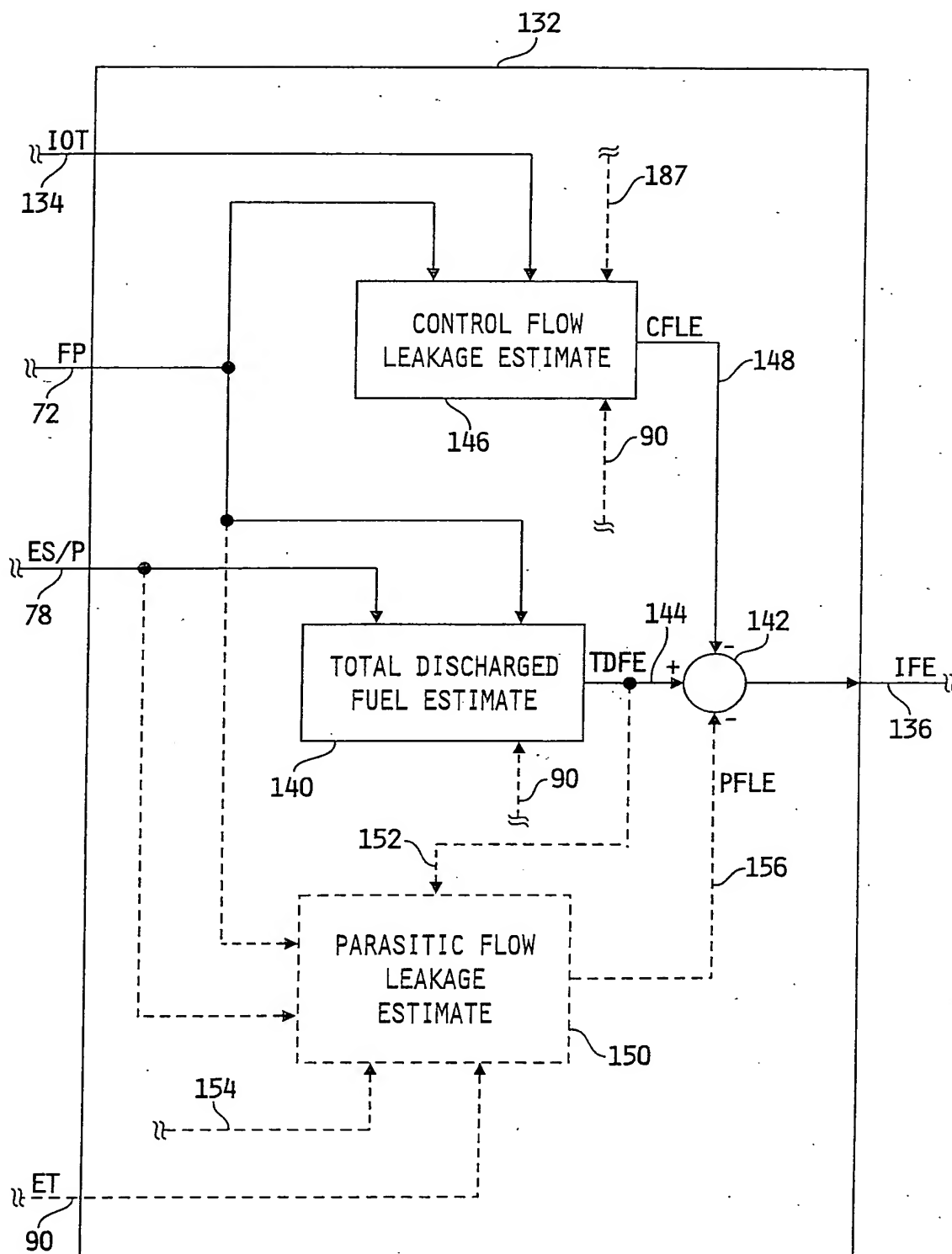


FIG. 5

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 6 of 33

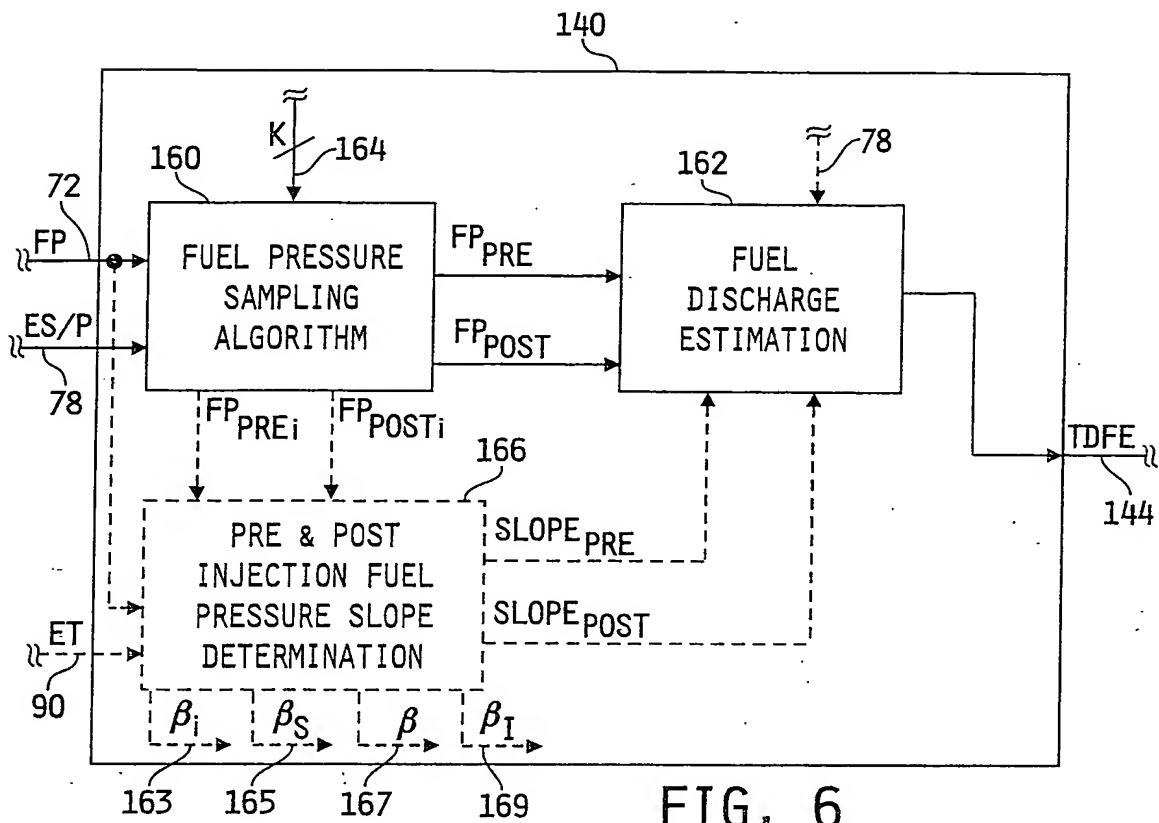


FIG. 6

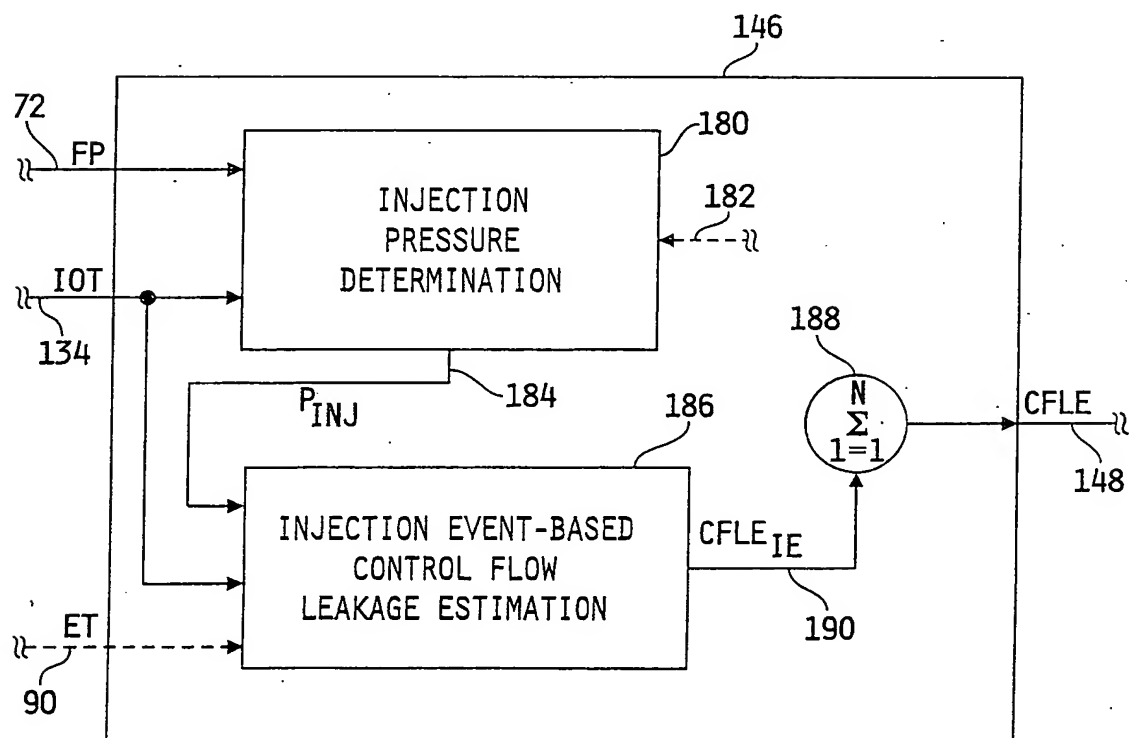


FIG. 14

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 7 of 33

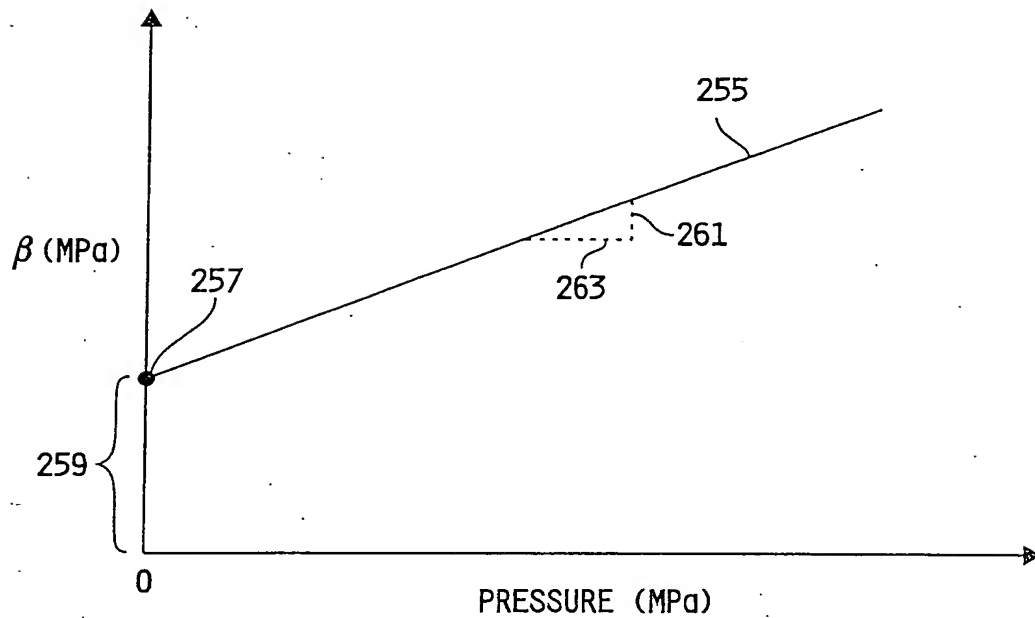


FIG. 7

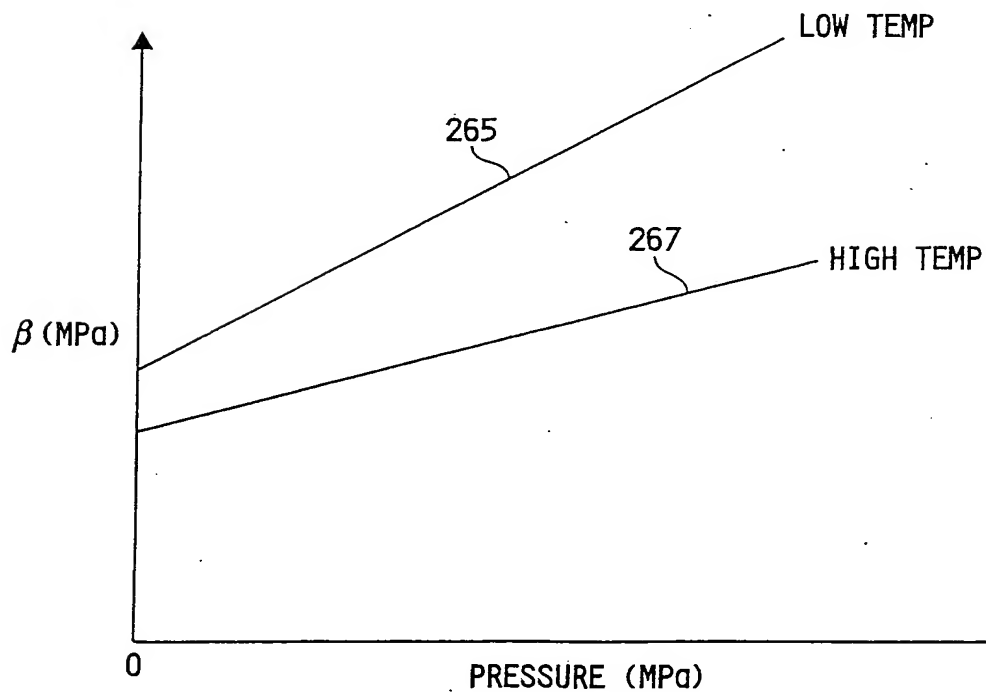


FIG. 8

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 8 of 33

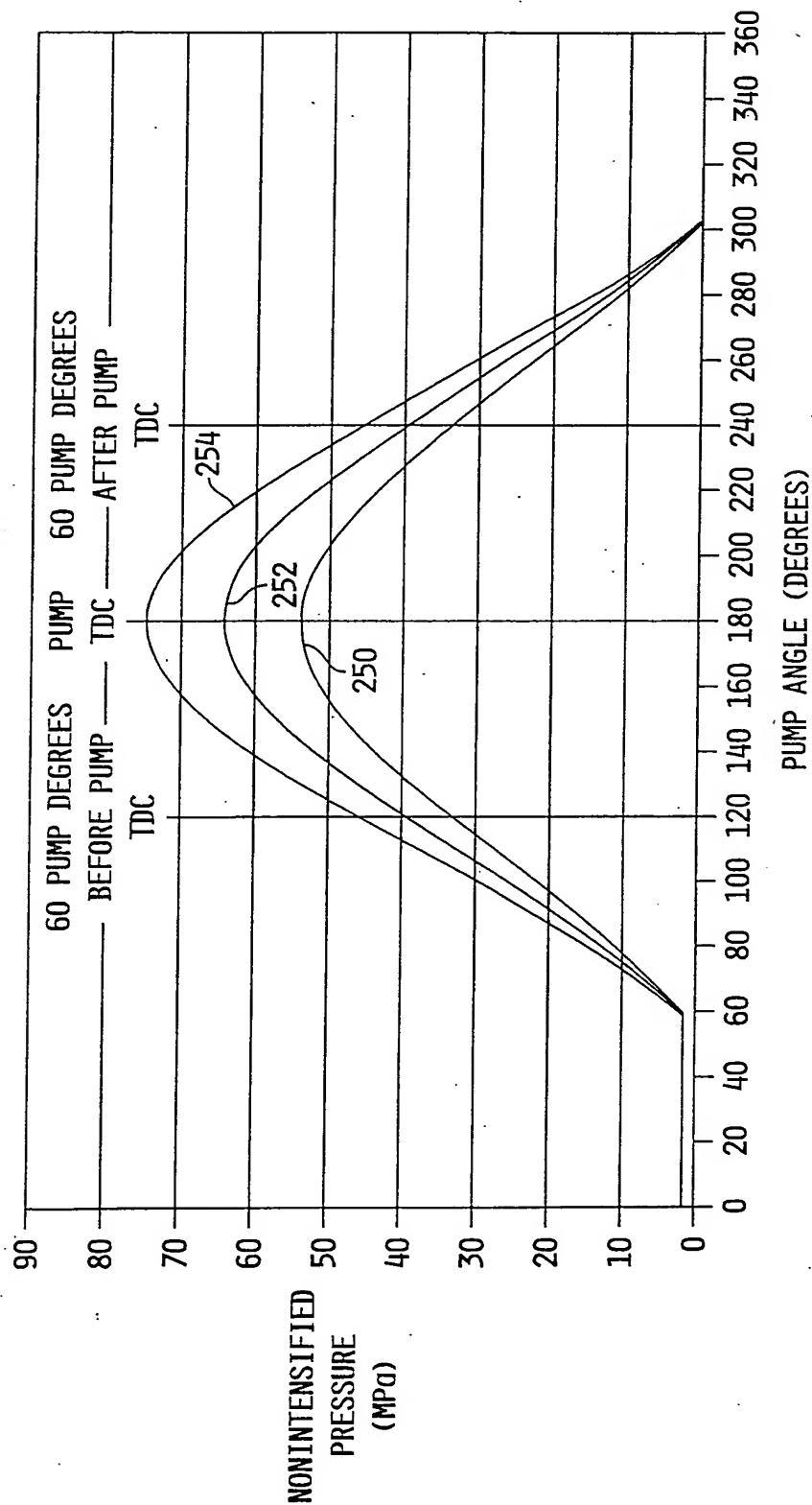


FIG. 9

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 9 of 33

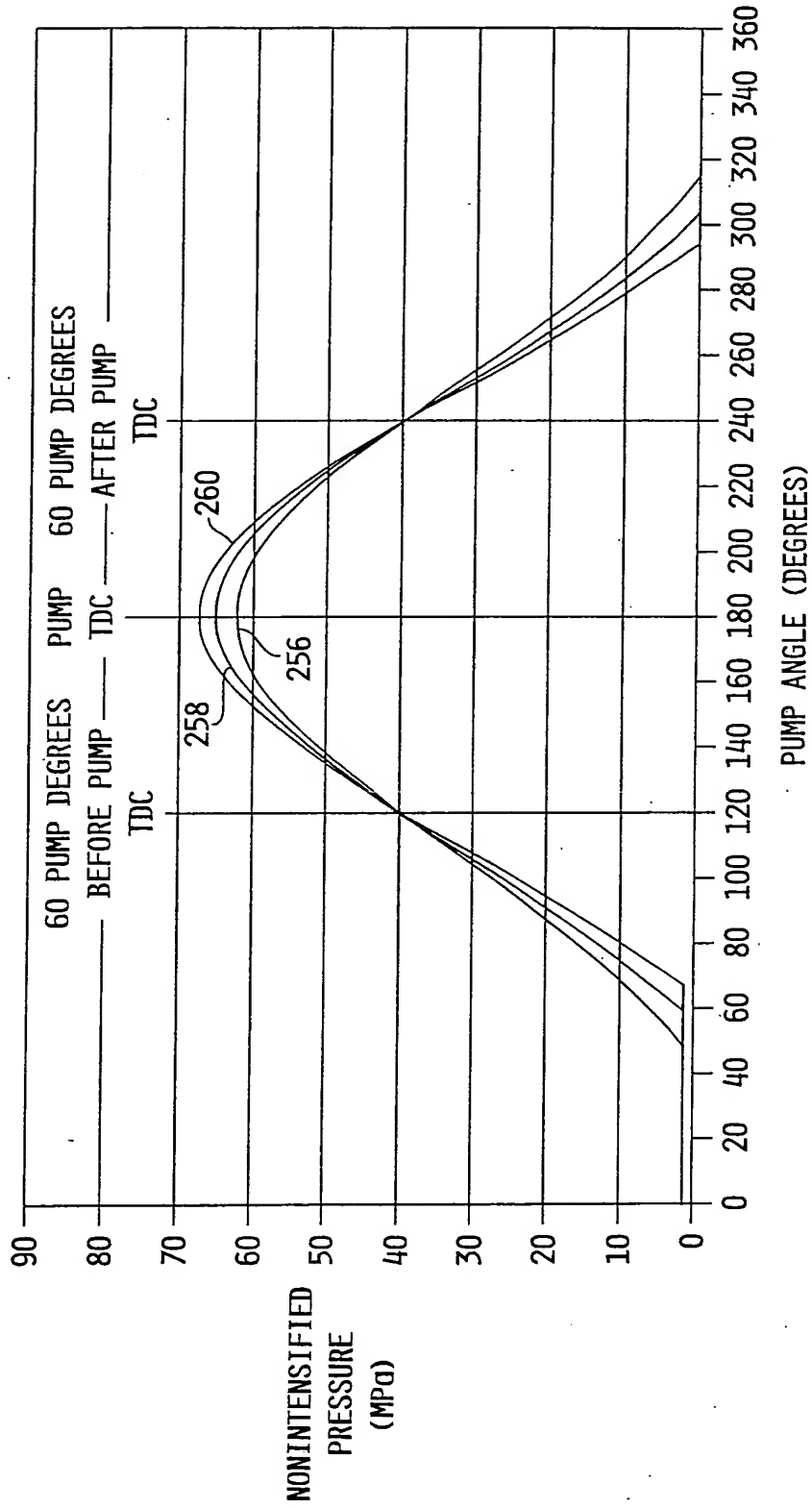


FIG. 10

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 10 of 33

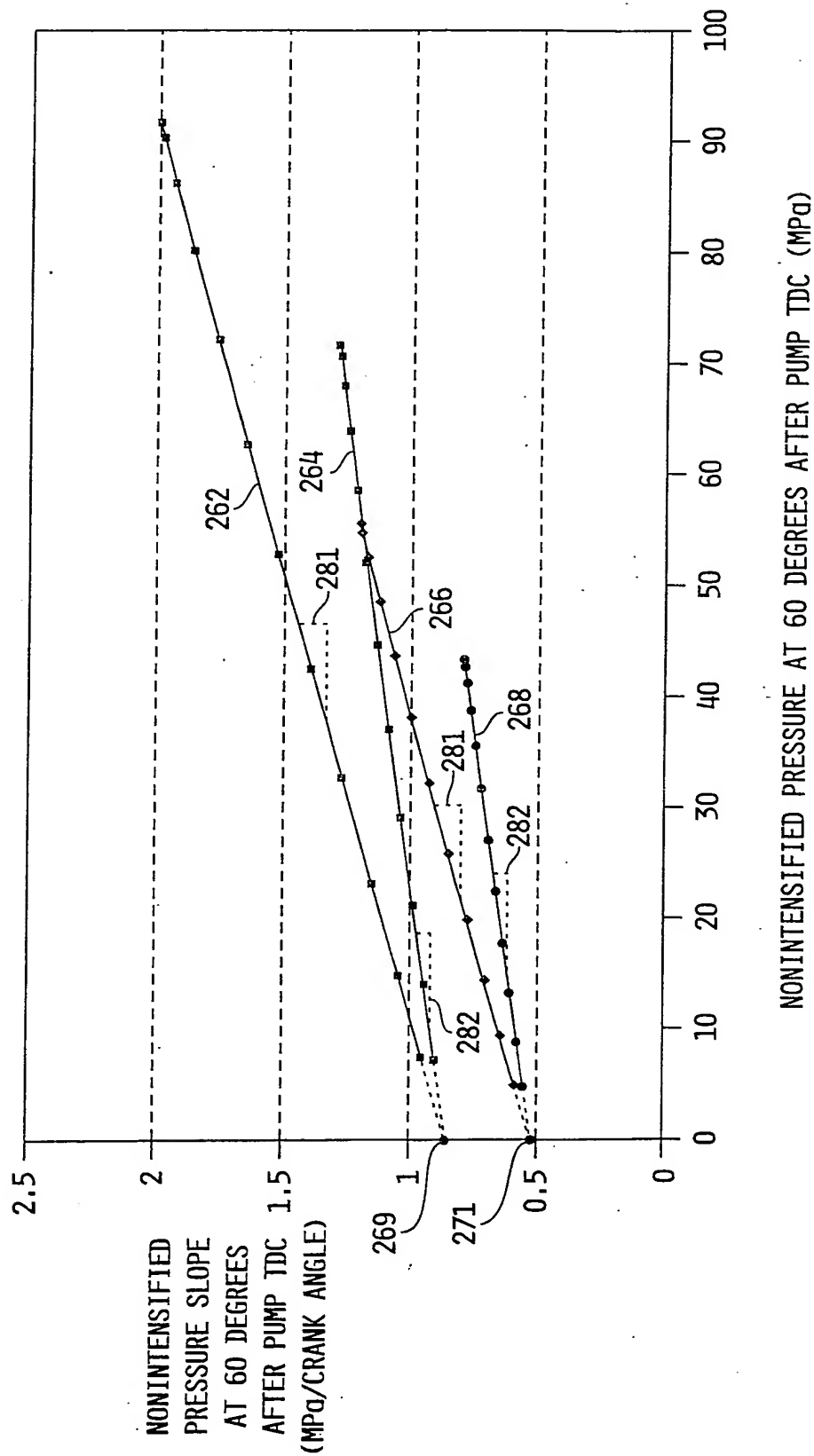


FIG. 11

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 11 of 33

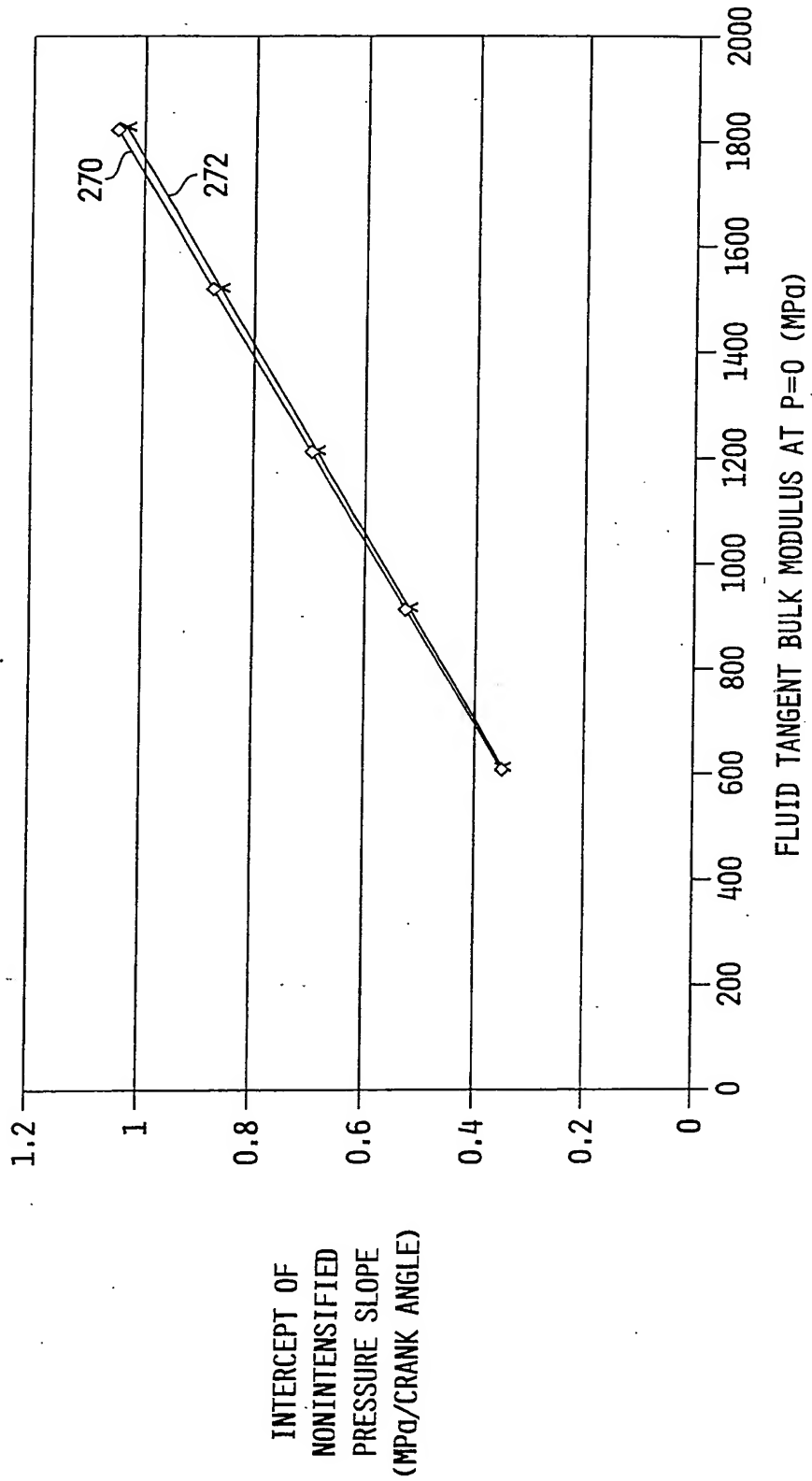


FIG. 12A

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 12 of 33

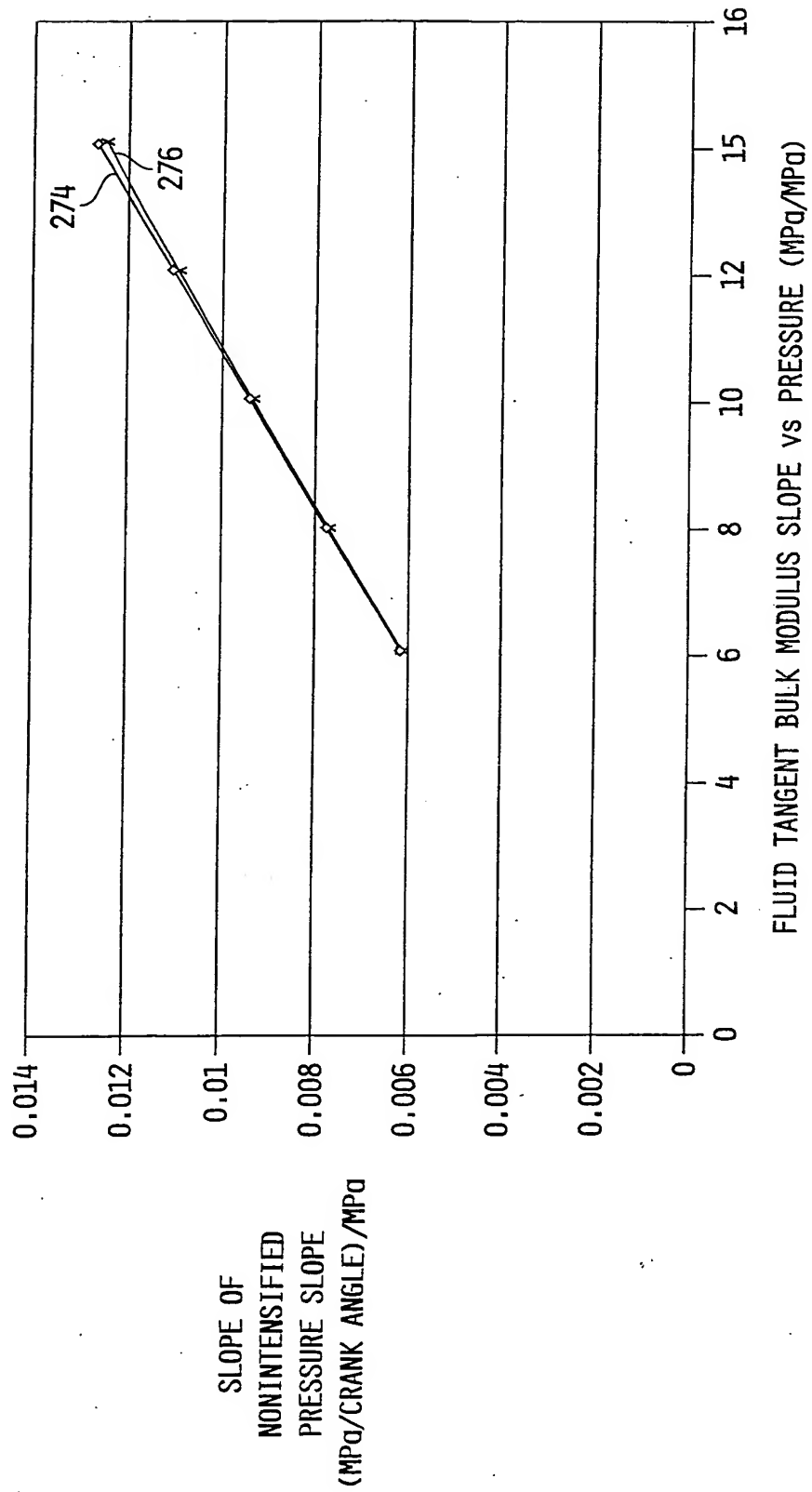


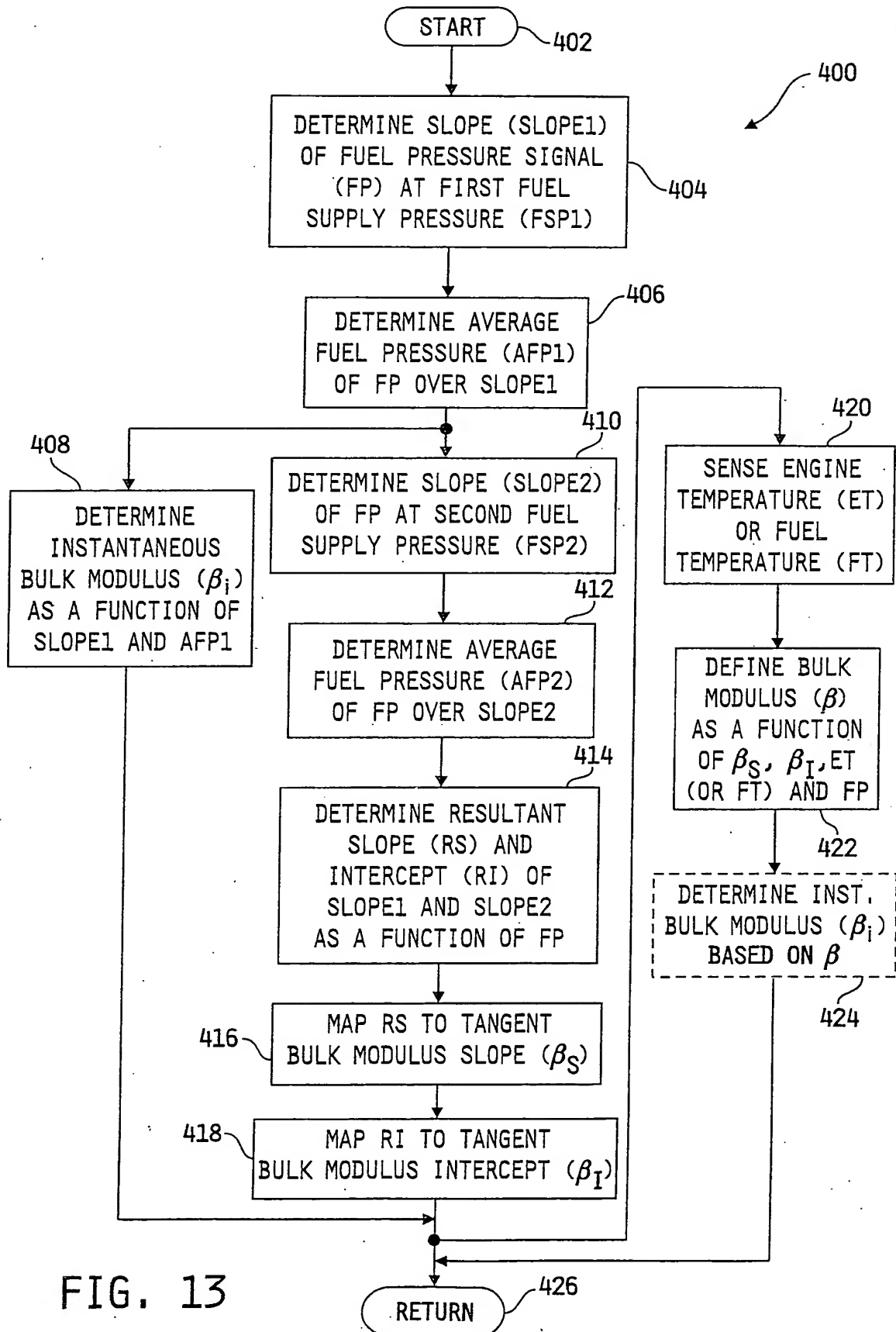
FIG. 12B

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 13 of 33



Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 14 of 33

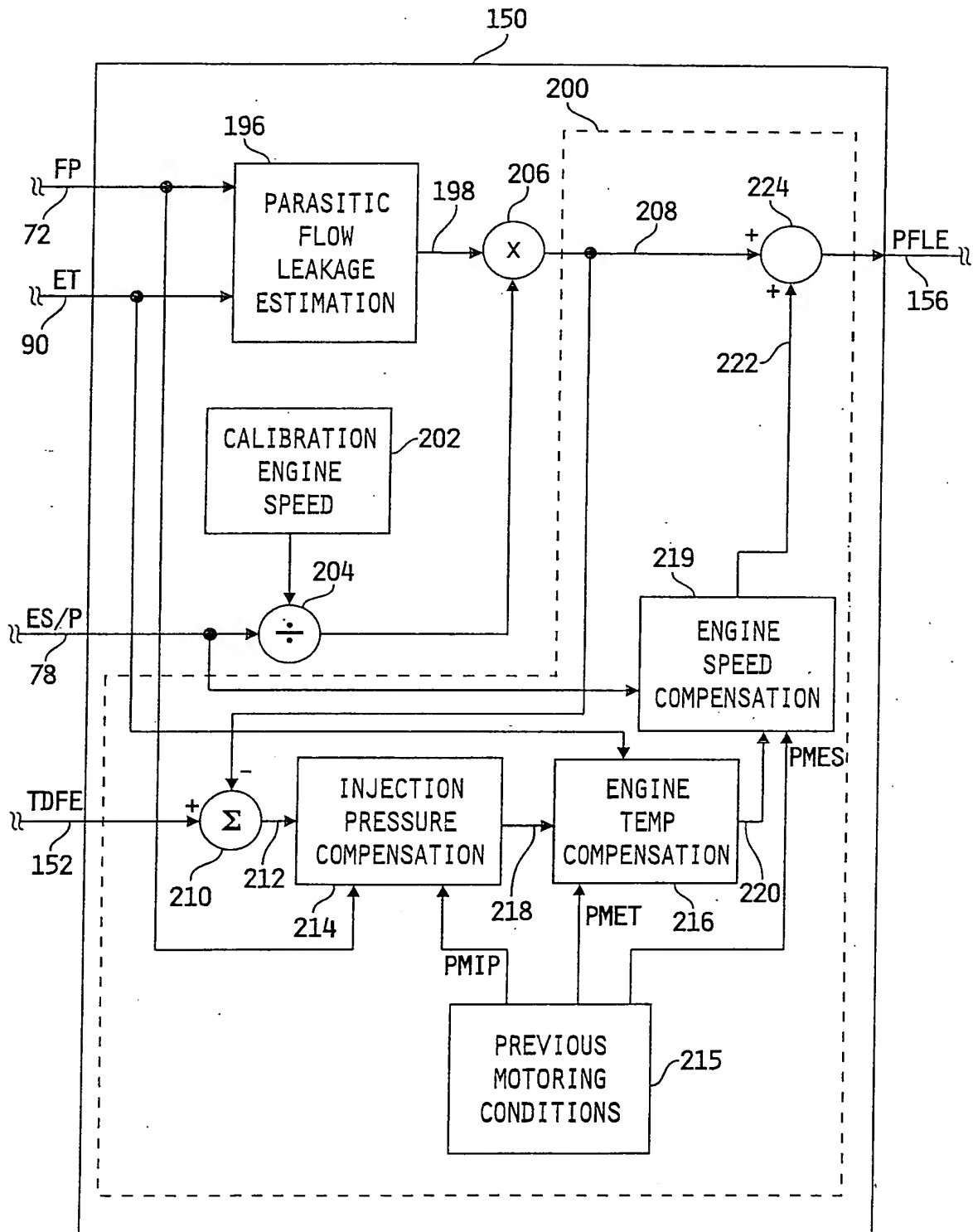


FIG. 15

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 15 of 33

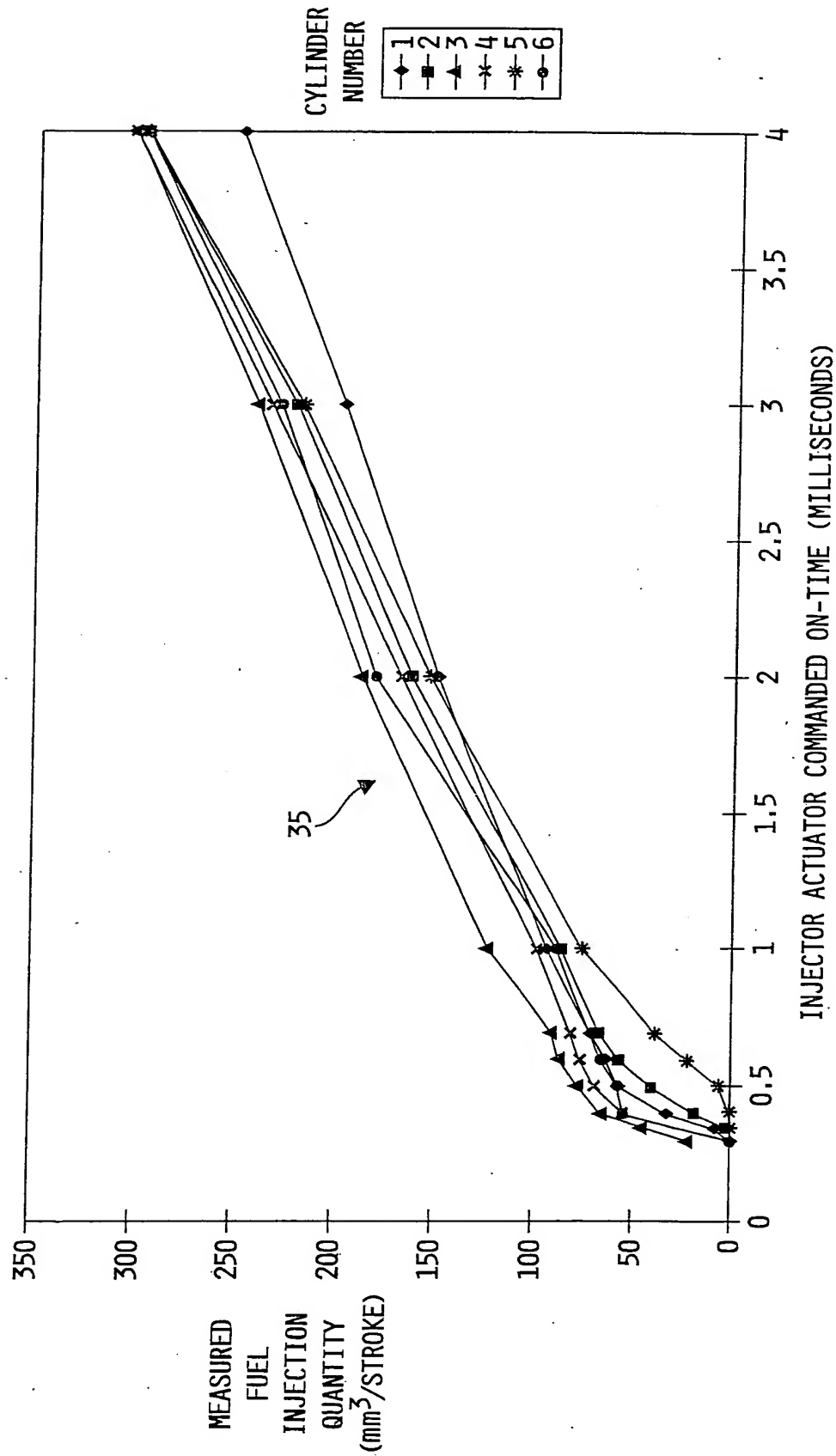


FIG. 16 (PRIOR ART)

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 16 of 33

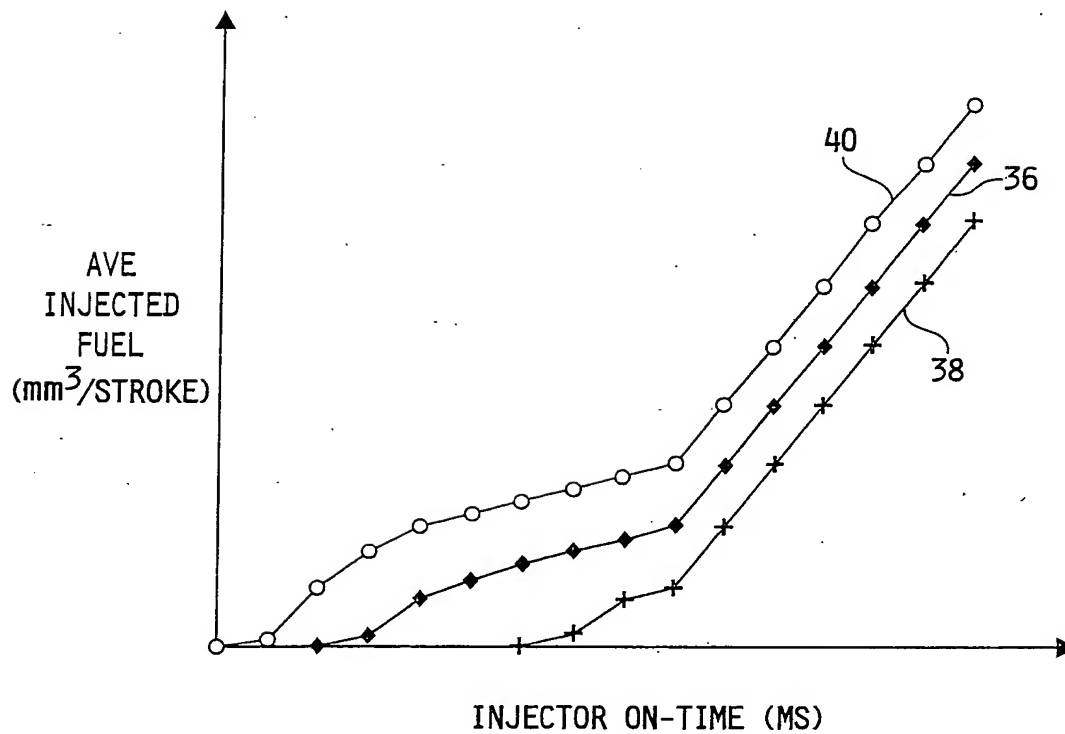


FIG. 17
(PRIOR ART)

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 17 Of 33

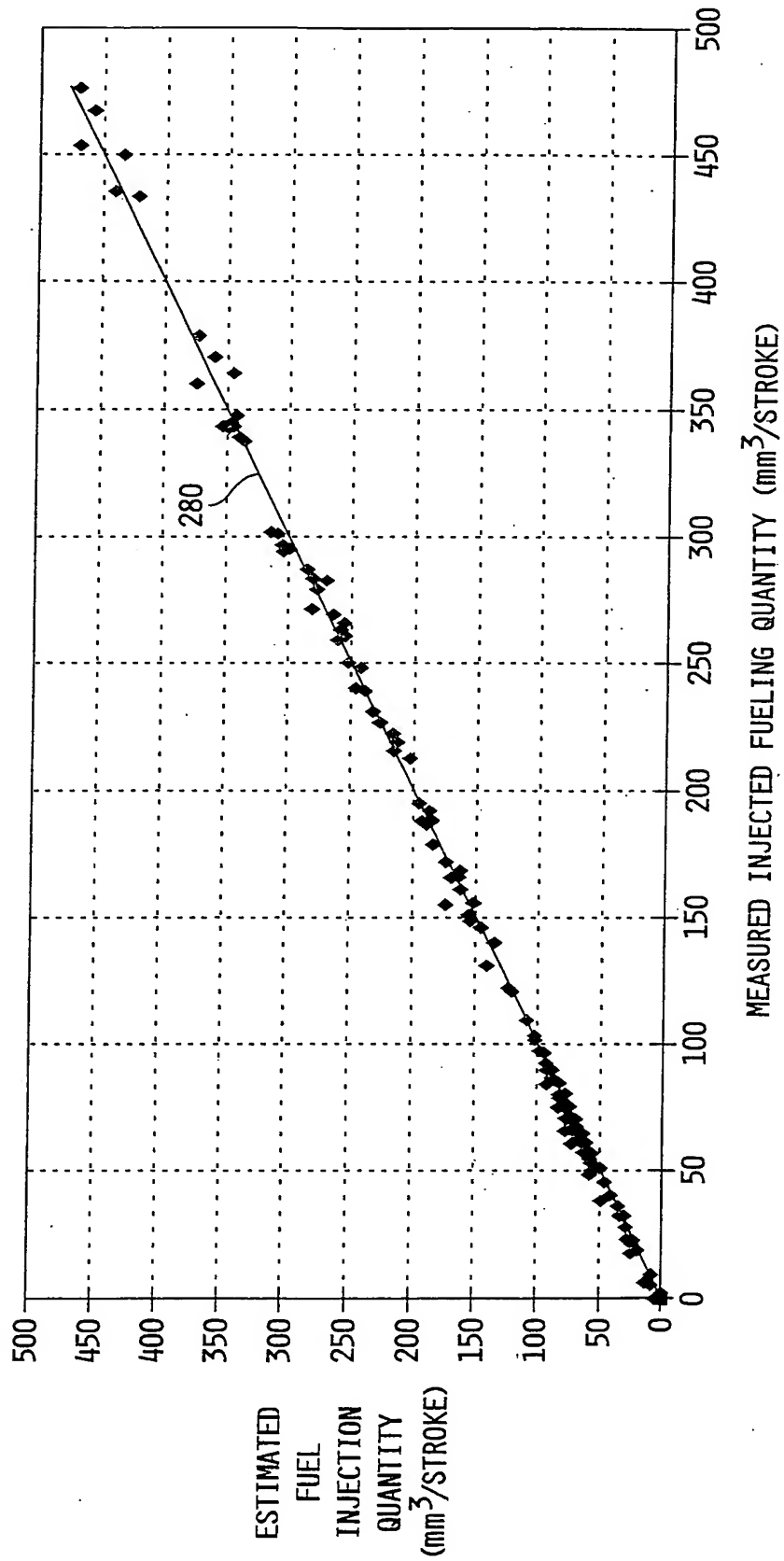


FIG. 18

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 18 of 33

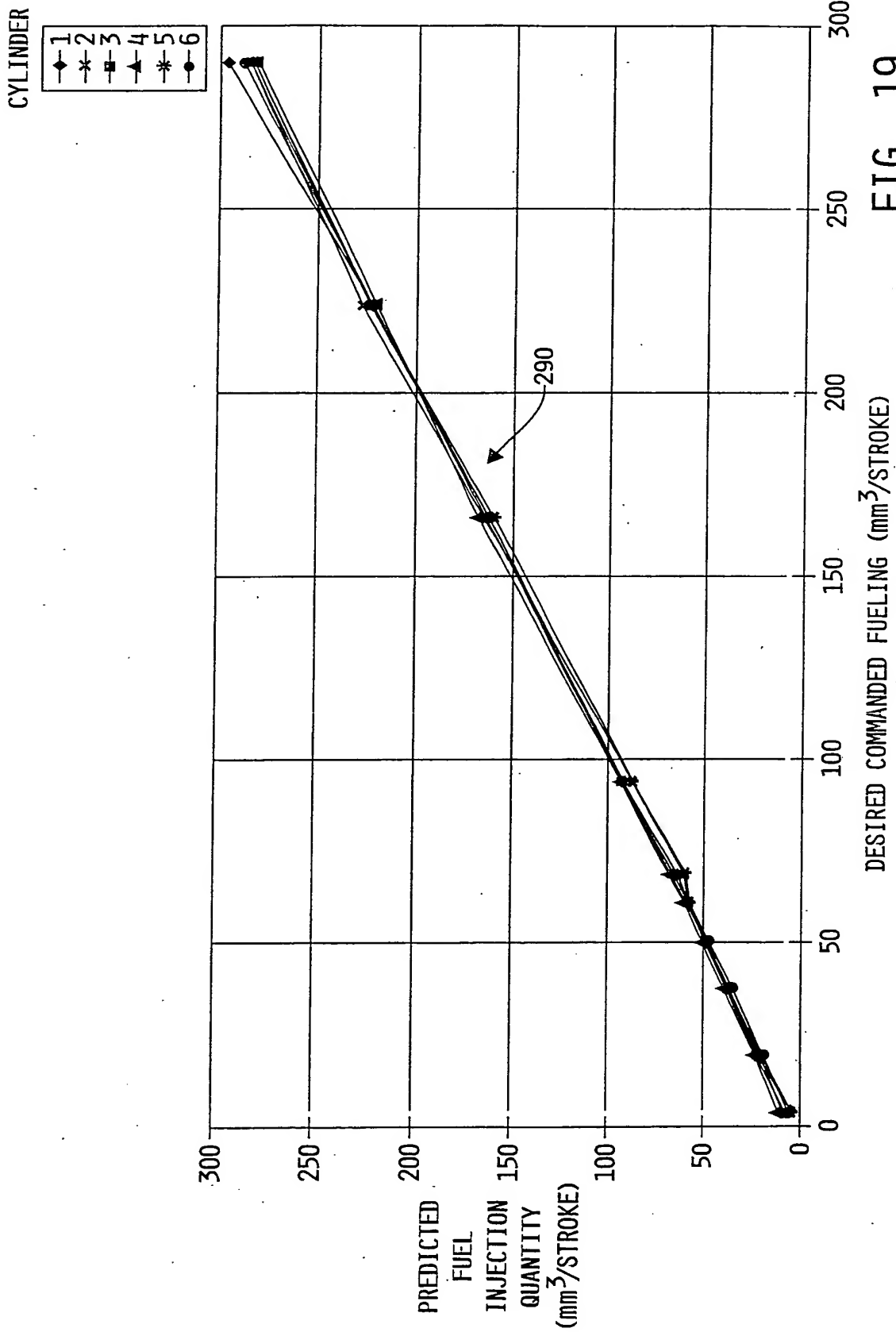


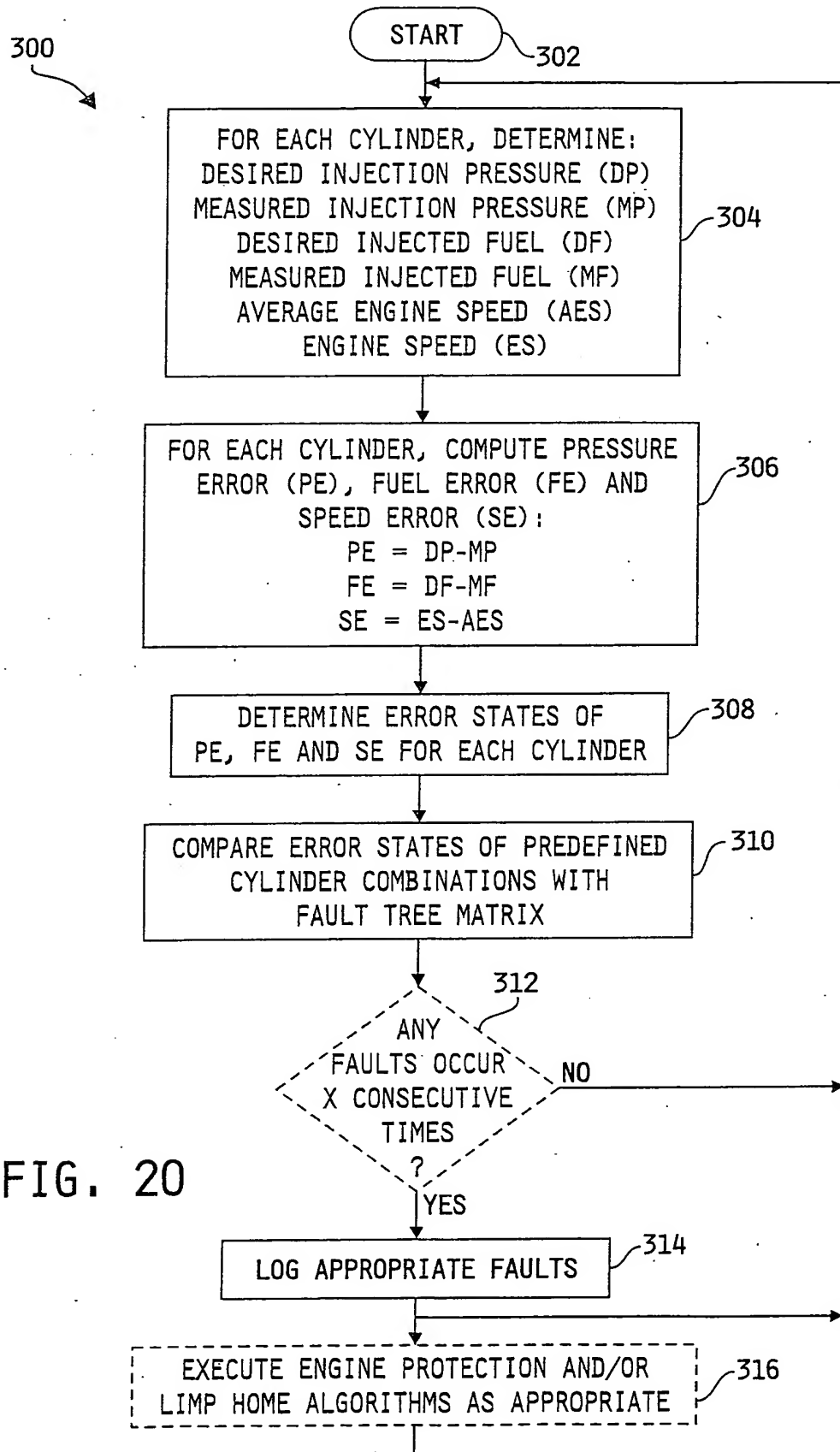
FIG. 19

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 19 of 33



Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 20 of 33

308

IF PE > PE THRESHOLD1 ; PE STATE = HIGH

IF PE < PE THRESHOLD2 ; PE STATE = LOW

IF PE THRESHOLD2 ≤ PE ≤ PE THRESHOLD1 ;
PE STATE = NORMAL

⋮

FIG. 21

310

<u>CYL #</u>	<u>PE STATE</u>	<u>FE STATE</u>	<u>SE STATE</u>	<u>FAULT</u>
1	LOW	HIGH	HIGH	OVERFUELING CYL #1
2	NORMAL	NORMAL	NORMAL	
3	NORMAL	NORMAL	NORMAL	
⋮	⋮	⋮	⋮	⋮
1	NORMAL/LOW	HIGH	NORMAL	CONTINUOUSLY OVERFUELING CYL # 3
2	NORMAL/LOW	HIGH	NORMAL	
3	NORMAL/LOW	HIGH	HIGH	
⋮	⋮	⋮	⋮	⋮

FIG. 22

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 21 of 33

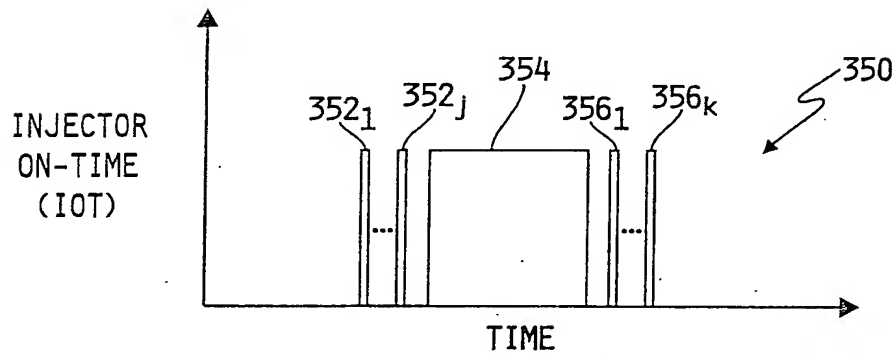


FIG. 23

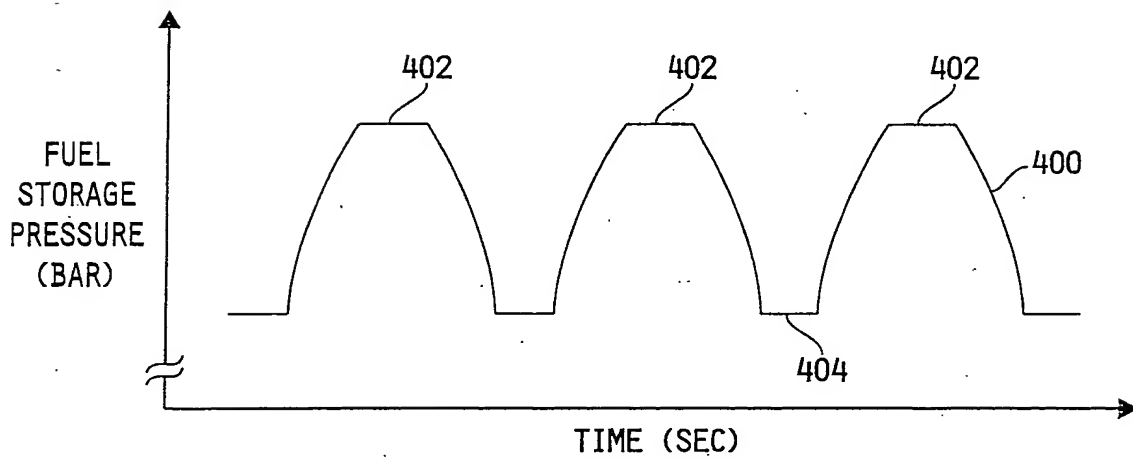


FIG. 24A

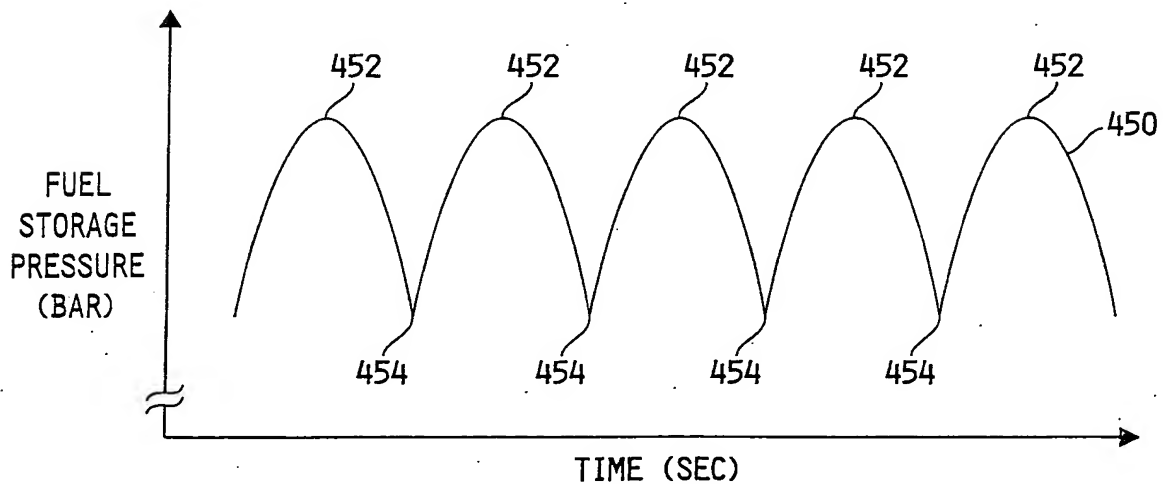


FIG. 24B

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 22 of 33

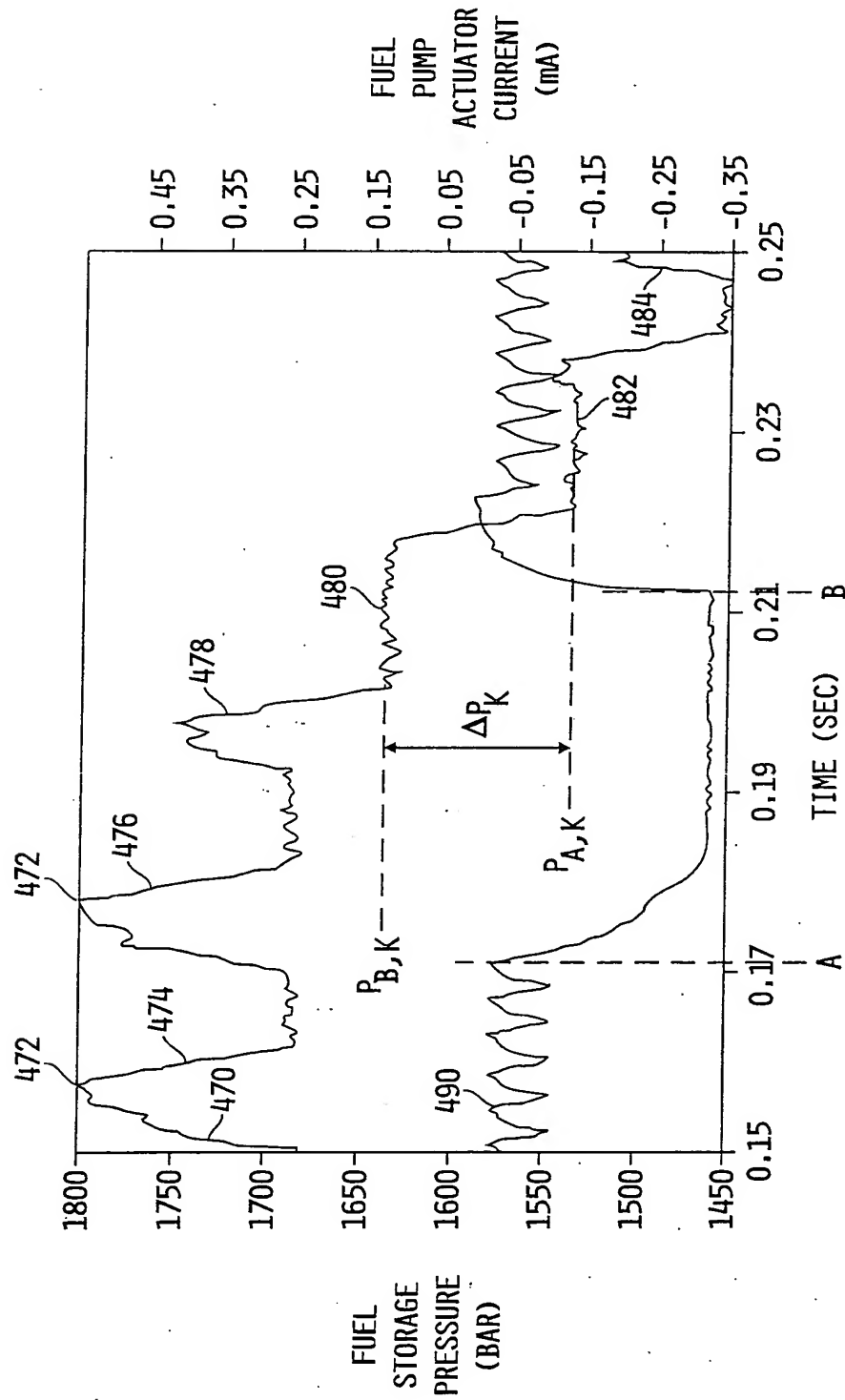


FIG. 25

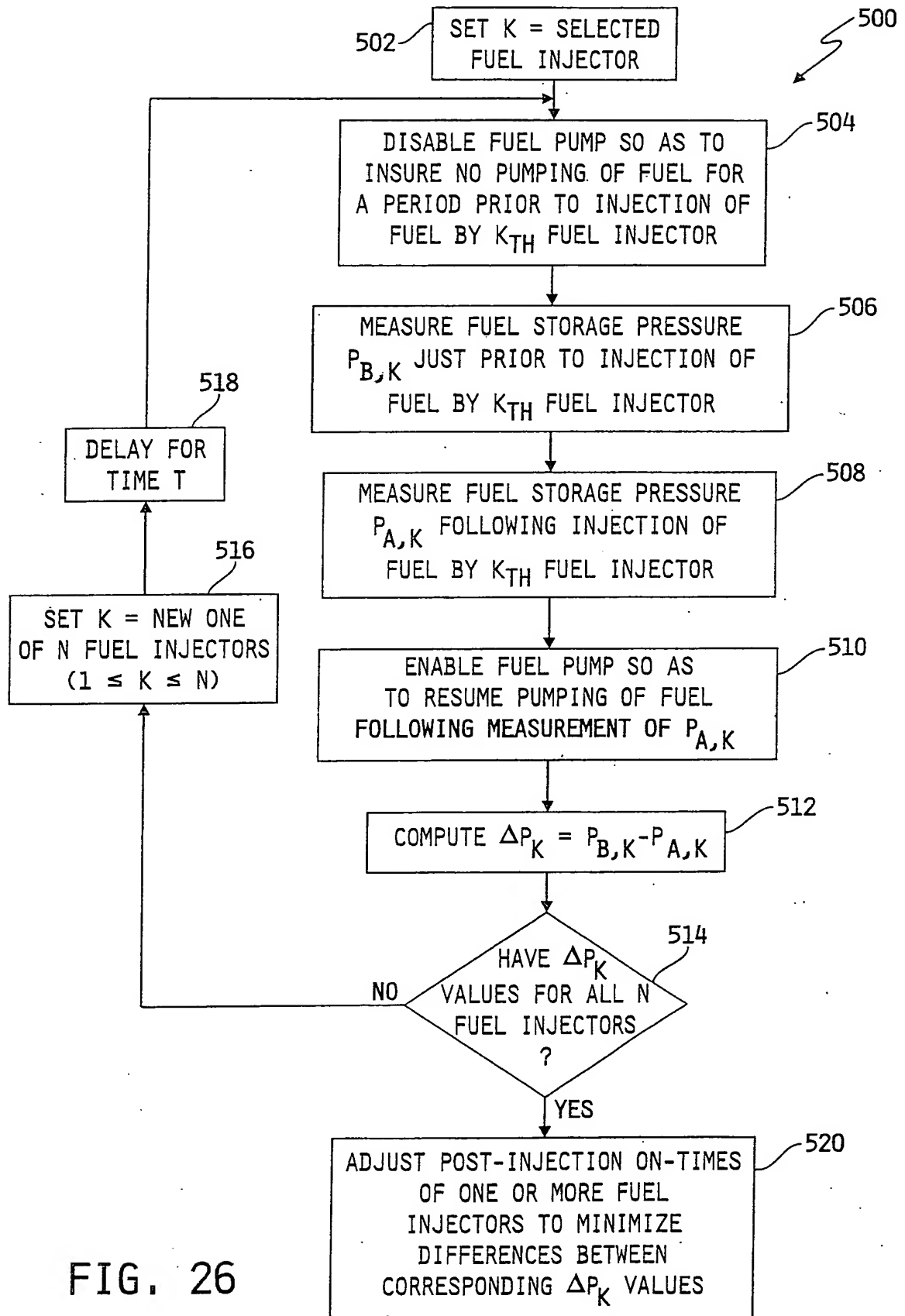


FIG. 26

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 24 of 33

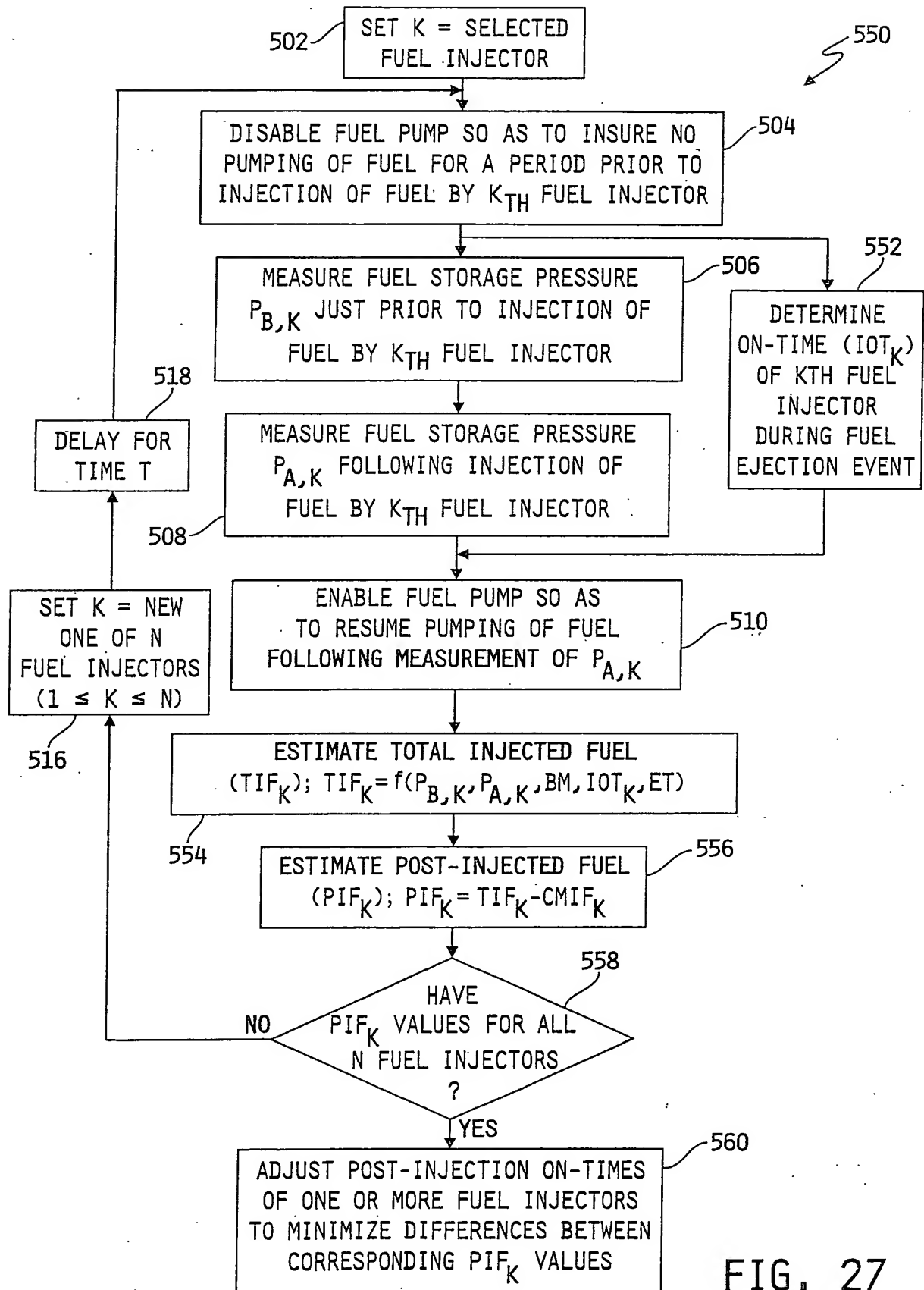


FIG. 27

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 25 Of 33

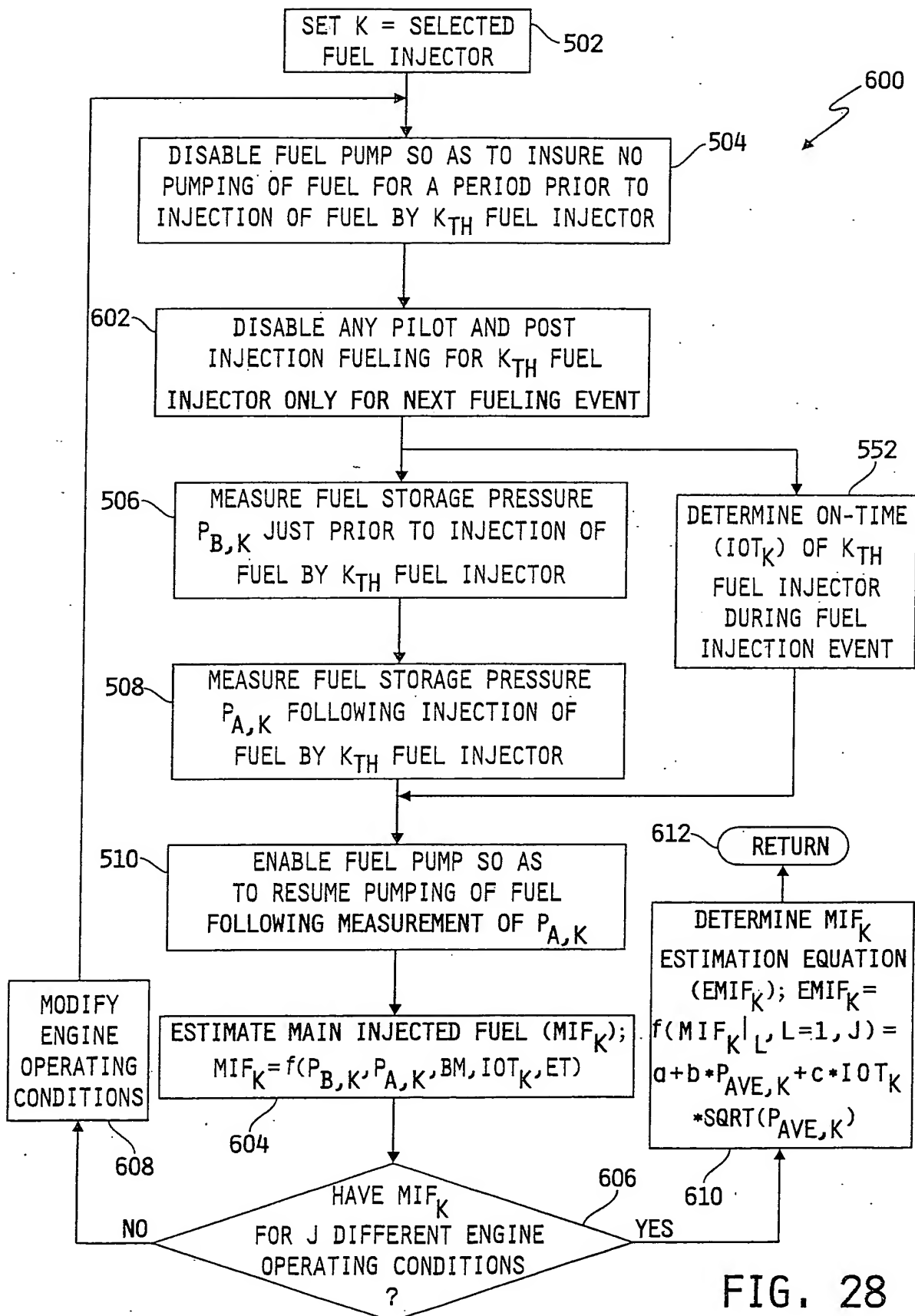


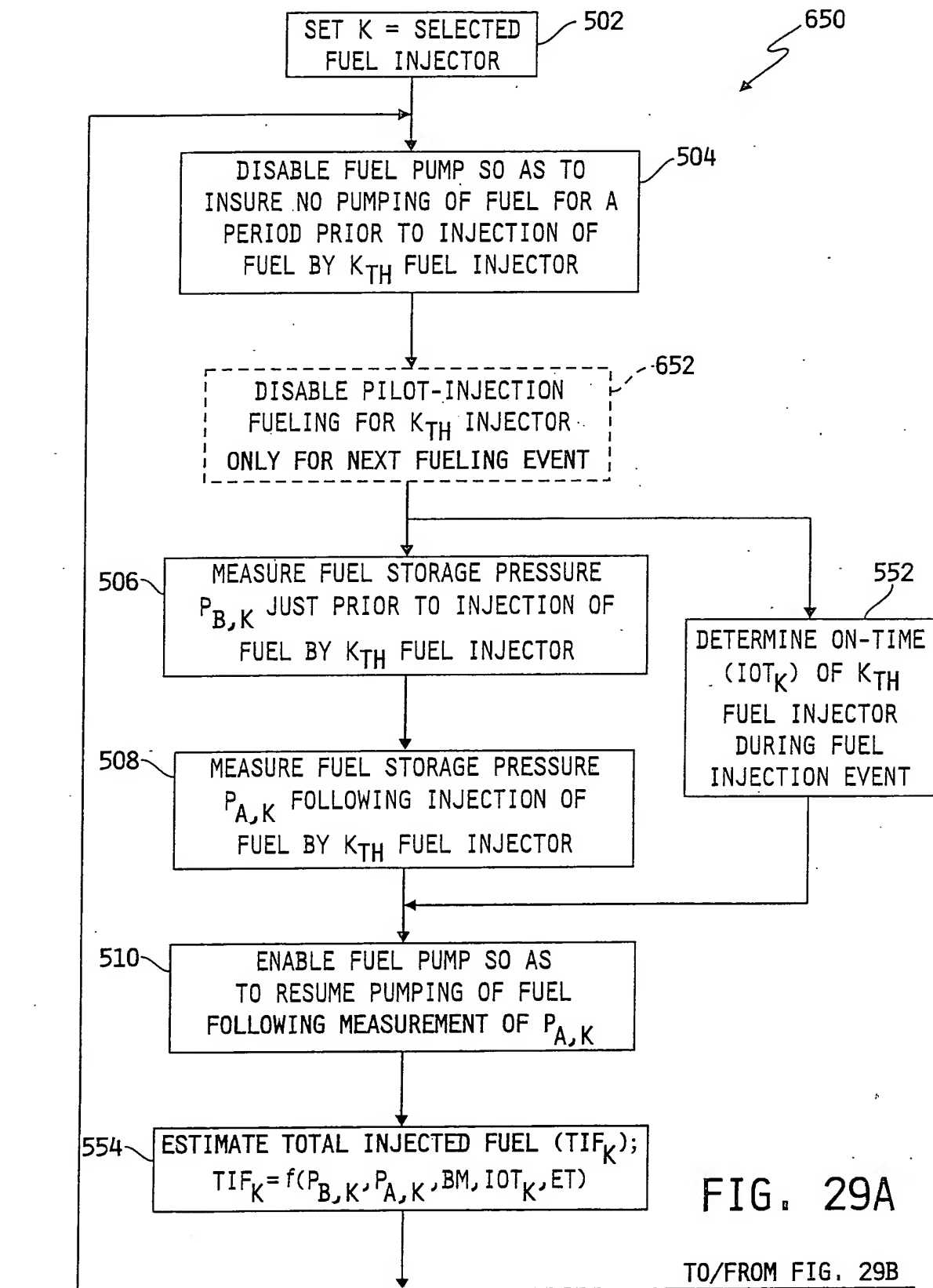
FIG. 28

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 26 of 33



Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 27 of 33

FROM/TO FIG. 29A

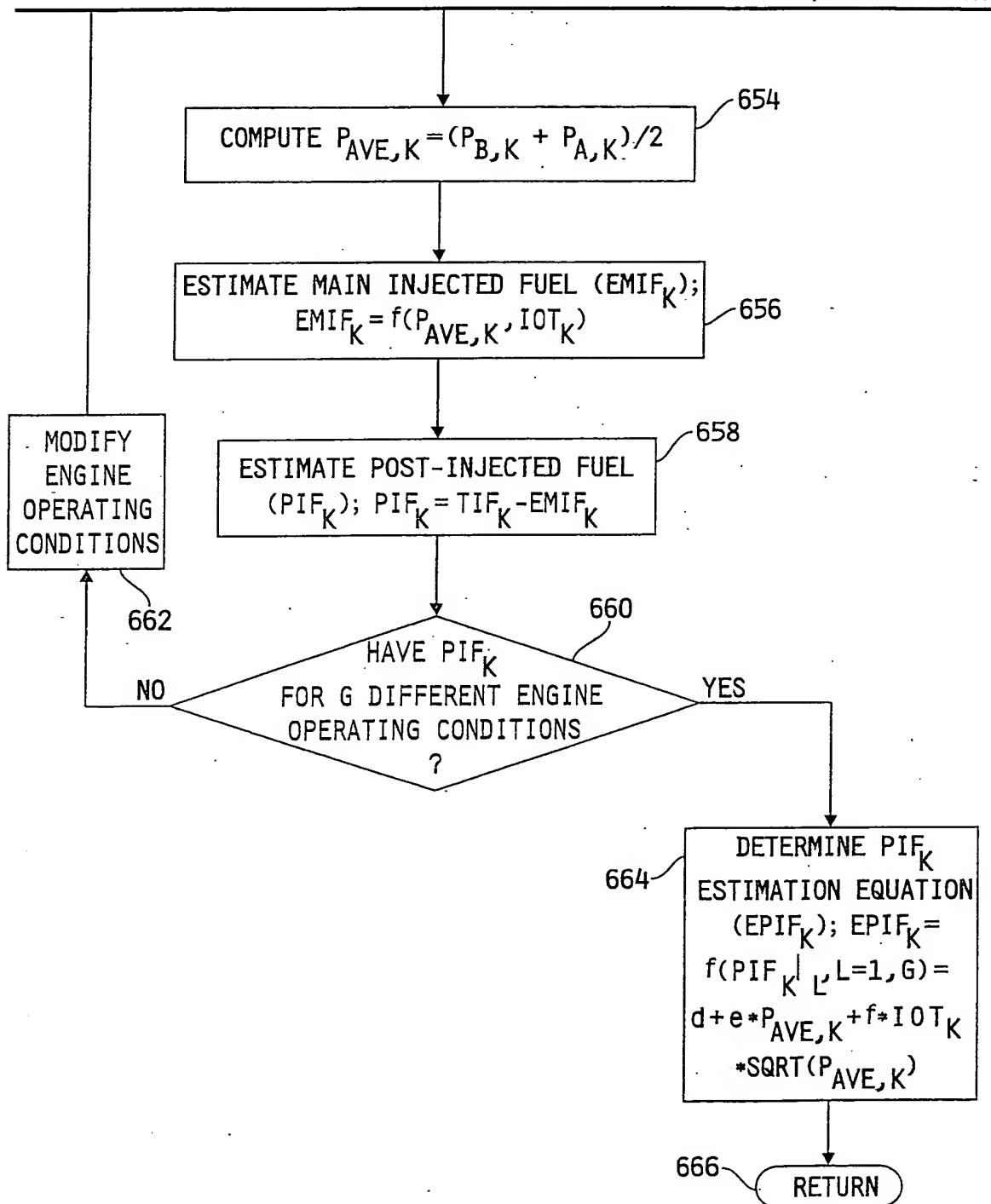


FIG. 29B

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 28 of 33

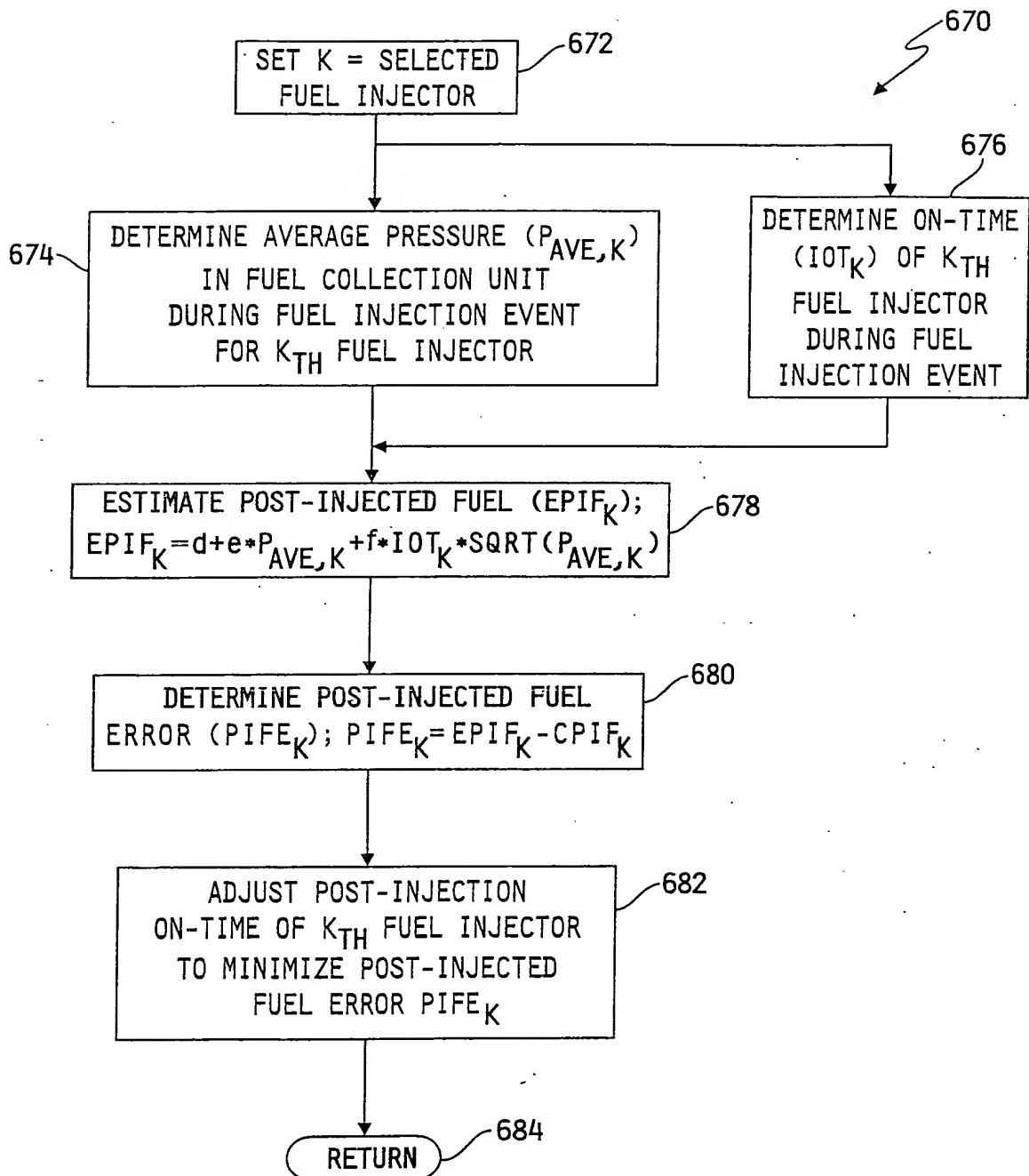


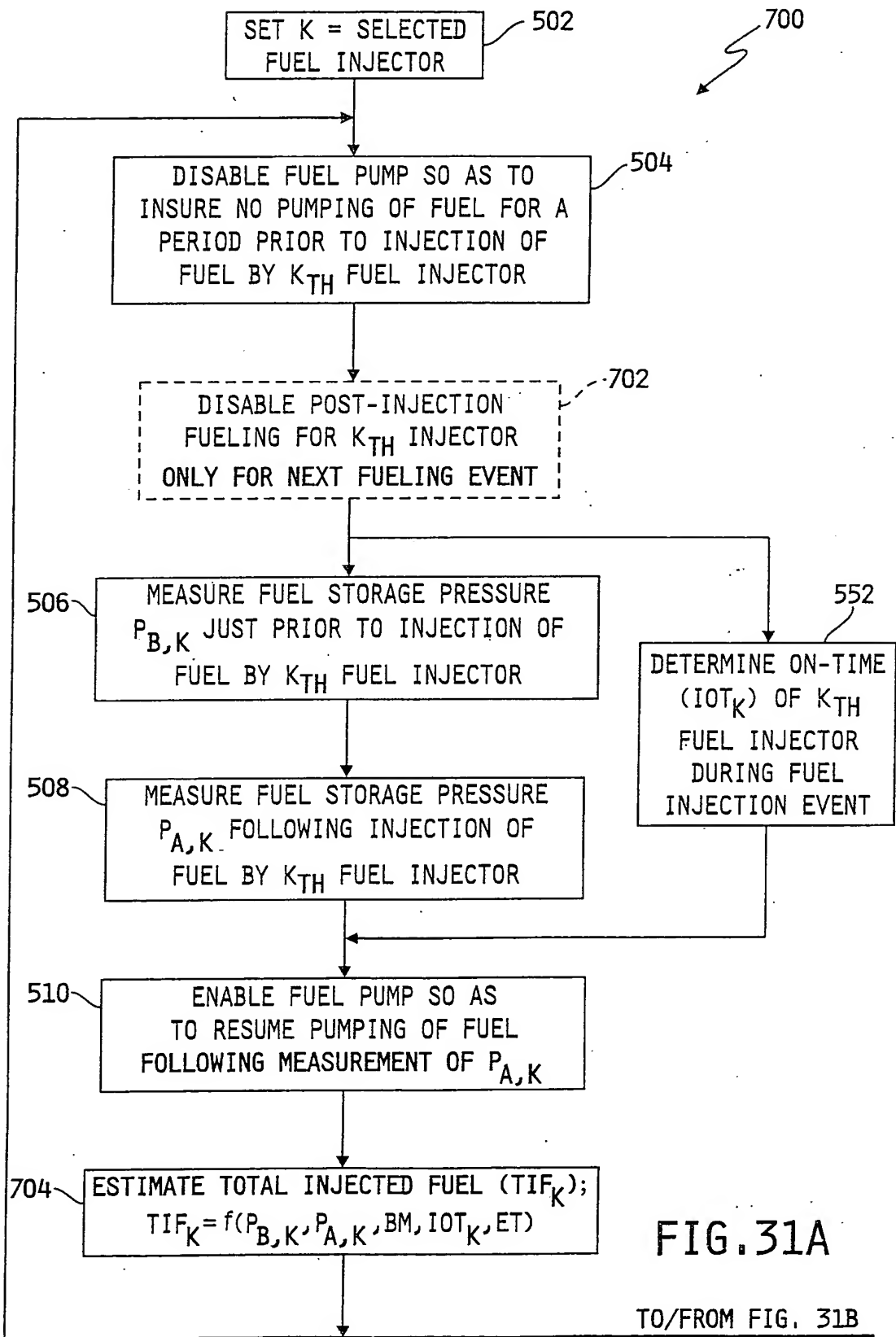
FIG.30

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 29 of 33



Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 30 of 33

FROM/TO FIG. 31A

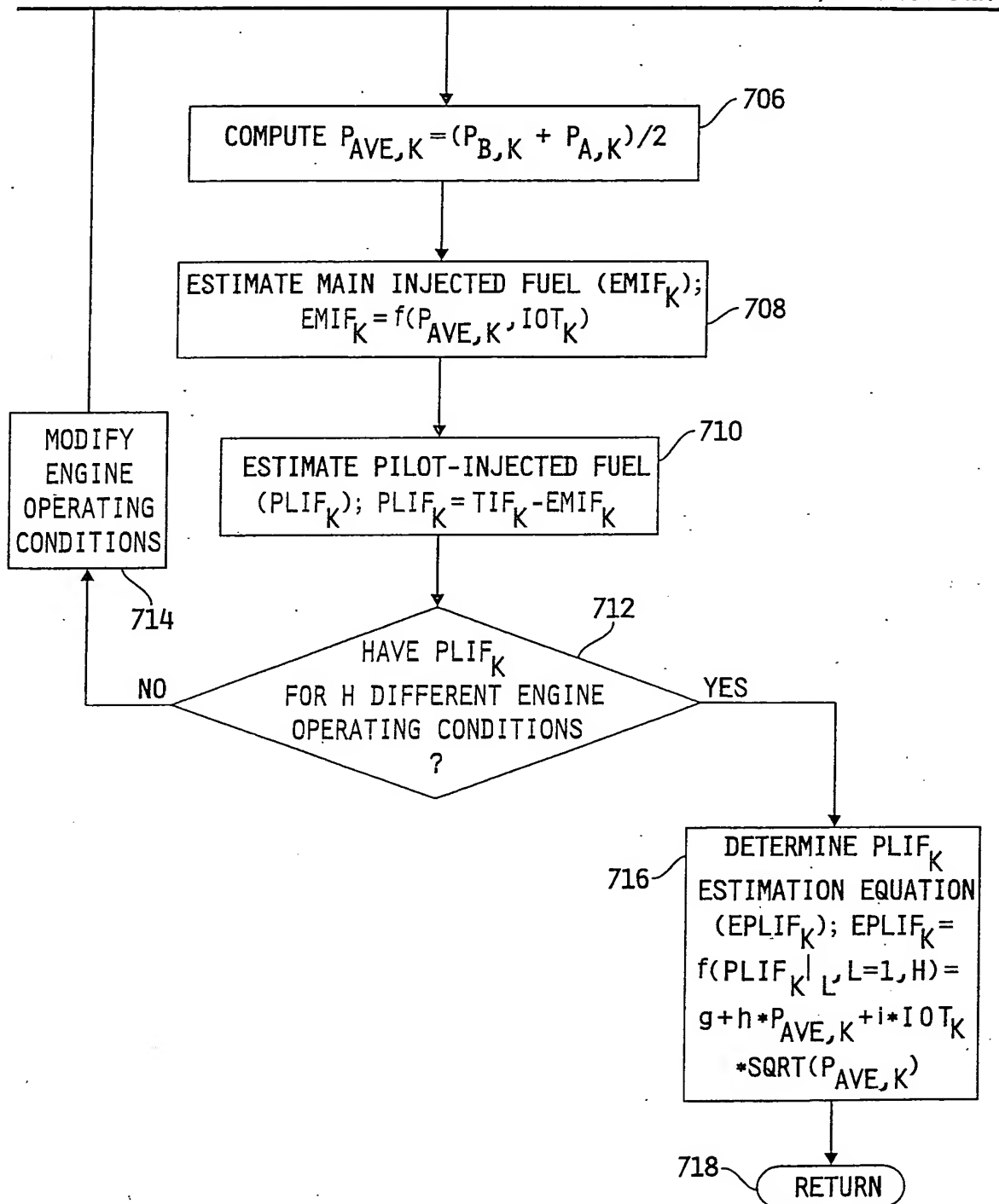


FIG. 31B

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 31 of 33

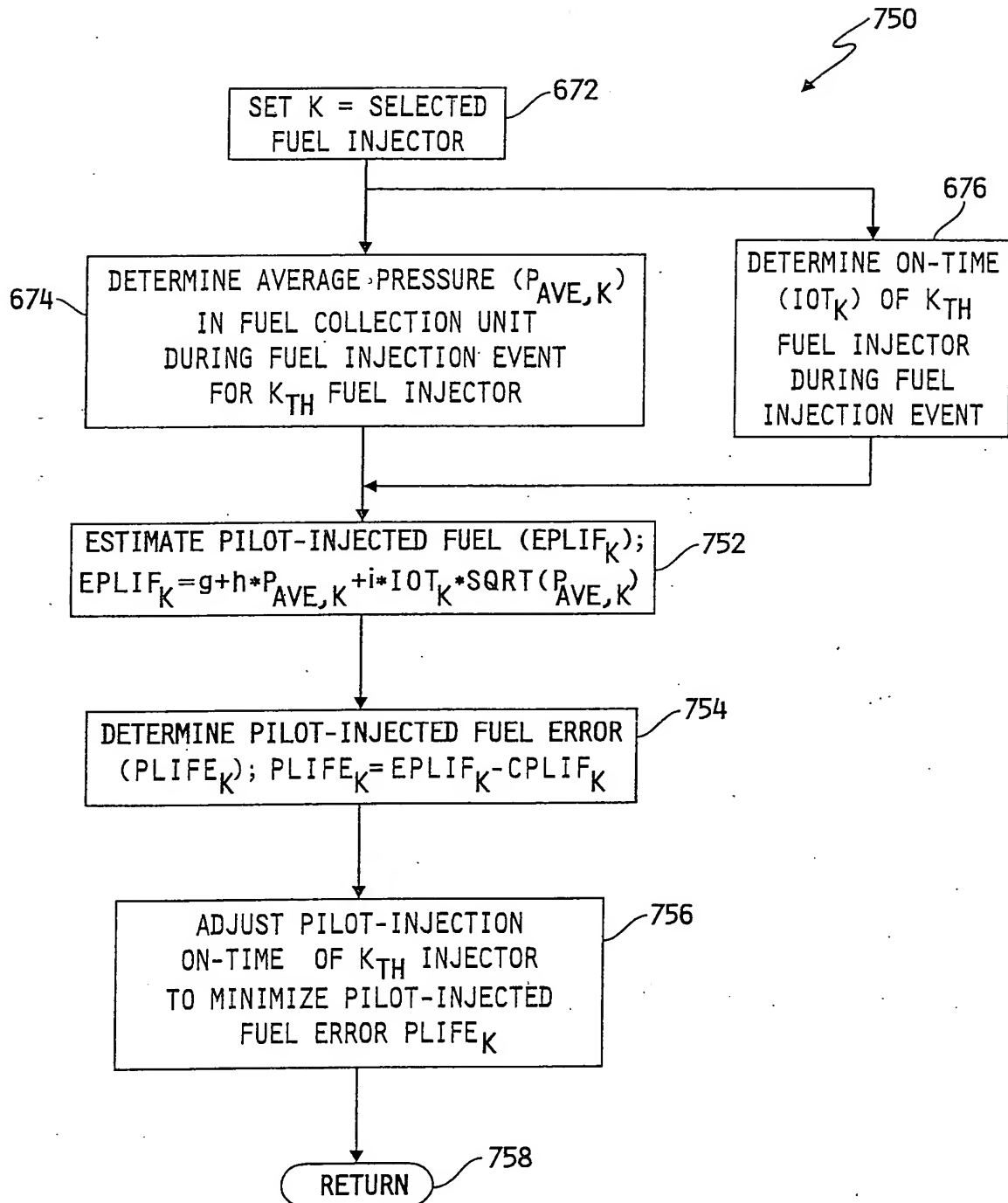


FIG.32

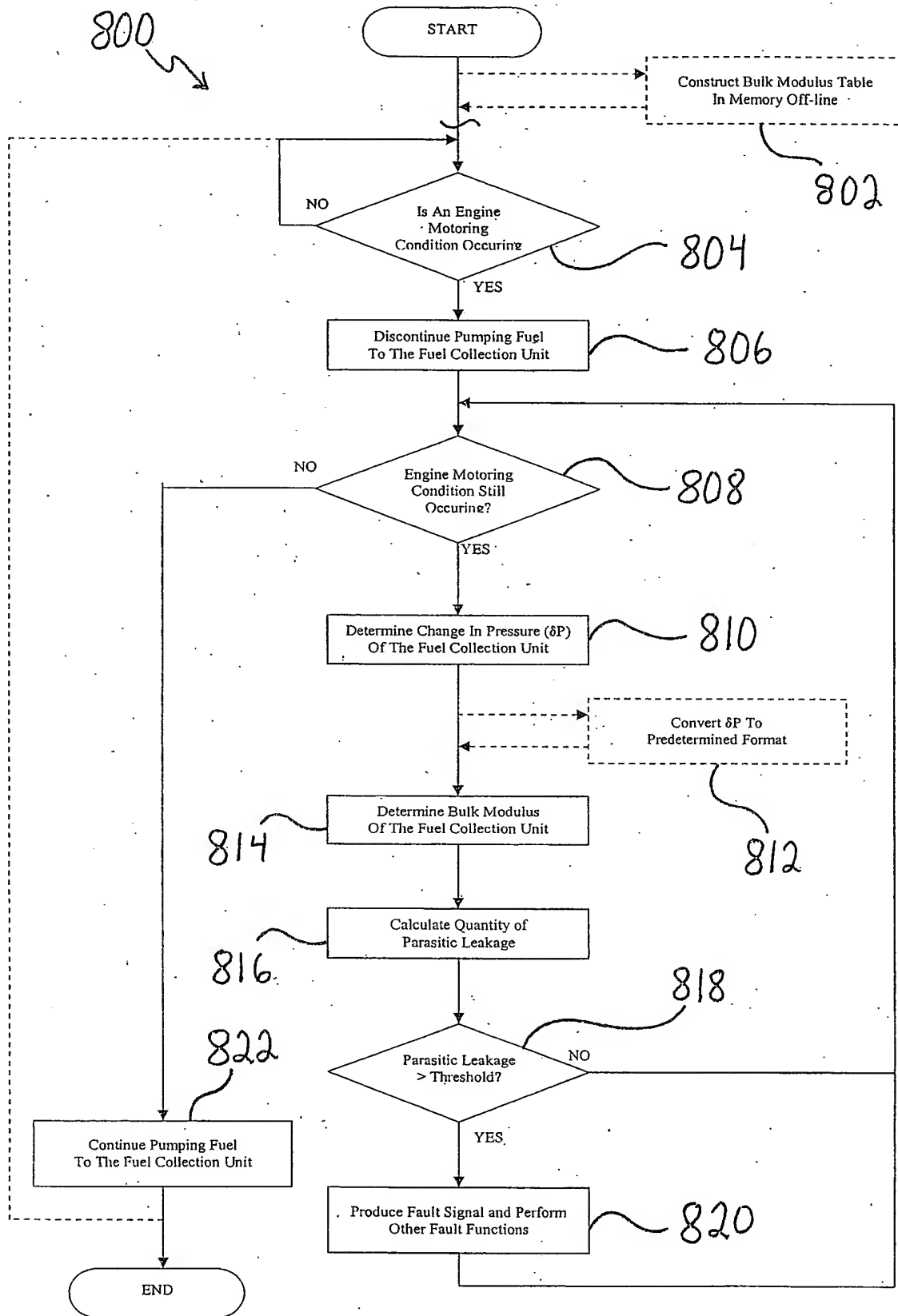


FIGURE 33

Title: SYSTEM FOR ESTIMATING A QUANTITY
OF PARASITIC LEAKAGE

Inventors: Tanker Tuken, et al.

Attorney Docket: 29766-70636

Page 33 of 33

Fuel Pressure Value 1	Fuel Temperature Value 1	Fuel Temperature Value 2		Fuel Temperature Value n
Fuel Pressure Value 2	B_{11}	B_{12}	$\circ \circ \circ \circ \circ$	B_{1n}
Fuel Pressure Value 3	B_{21}	B_{22}	$\circ \circ \circ \circ \circ$	B_{2n}
Fuel Pressure Value 4	B_{31}	B_{32}	$\circ \circ \circ \circ \circ$	B_{3n}
Fuel Pressure Value 5	B_{41}	B_{42}	$\circ \circ \circ \circ \circ$	B_{4n}
	B_{51}	B_{52}	$\circ \circ \circ \circ \circ$	B_{5n}
			$\circ \circ \circ \circ \circ$	
			$\circ \circ \circ \circ \circ$	
			$\circ \circ \circ \circ \circ$	
Fuel Pressure Value m	B_{m1}	B_{m2}	$\circ \circ \circ \circ \circ$	B_{mn}

Figure 34